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ABSTRACT

This supplement to "Postsecondary Student Terminology," a National Center for Education Statistics handbook, examines postsecondary education policy issues relevant to information needs about students, procedures used in identifying information items needed to statistically evaluate the issues, and an illustrative database for postsecondary education institutions. The policy issues, which were identified by a literature review and interviews with professionals, relate to equality of opportunity, trained manpower, and lifelong learning or recurrent education. Relevant variables to equality of opportunity are economics and financial issues, the location of educational programs, the scheduling of classes, the effect of the student's ability, and the available counseling. Two important concerns in relation to trained manpower are the factors that influence students' choice of career and the relationship between employment success and specific courses of study. Lifelong learning provides the opportunities for reentry into formal postsecondary education. Policy-relevant questions, variables relevant to the questions, and table-shell (report) specifications that show the data needed to describe the current value of subissues are analyzed. For selected topics, the format and data needed in reports are described to illustrate what might be required for an information system. The illustrative database is presented to review the use of student terms in combination with data from other files and to decide how data files will be linked. Appended materials include a bibliography, a definition of a postsecondary educational institution, and a list of resources for the definition. (SW)

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POSTSECONDARY EDUCATION POLICY ISSUES AND RELATED STANDARD TERMINOLOGY NEEDS

A Supplement to NCES Handbook XII:
Postsecondary Student Terminology

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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Prepared by:
Government Studies & Systems, Inc.
University City Science Center
3401 Market Street
Philadelphia, Pennsylvania 19104

Prepared for:

National Center for Education Statistics
400 Maryland Avenue, S.W.
Washington, D.C. 20202

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Education Division
Mary F. Berry, Assistant Secretary for Education

National Center for Education Statistics
Marie D. Eldridge, Administrator

NATIONAL CENTER FOR EDUCATION STATISTICS

"The purpose of the Center shall be to collect and disseminate statistics and other data related to education in the United States and in other nations. The Center shall . . . collect, collate, and, from time to time, report full and complete statistics on the conditions of education in the United States; conduct and publish reports on specialized analyses of the meaning and significance of such statistics; . . . and review and report on education activities in foreign countries . . . . The Administrator shall, insofar as practicable, develop a common set of definitions and terms . . . ."
--Sections 406(b) and 406(g) of the General Education Provisions Act, as amended (20 U.S.C. 1221-1).

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CONTENTS

		Page
Foreword		v
Acknowledgments		vii
Chapter I:	Introduction	1
Chapter II:	Issues in Postsecondary Education Relevant to Students and Their Attendant Information Needs: Comments From Key Literature	7
Chapter III:	The Structuring of Information Needs	31
Chapter IV:	An Illustrative Data Base for A Postsecondary Education Institution	73
Chapter V:	Preliminary Outline For the Handbook of Terms and Definitions About Students in Postsecondary Education	81
Appendix A:	Postsecondary Education Institution: Definition Endorsed by FICE	85
Appendix B:	Materials Reviewed for Terms and Definitions, by Source of Resource Item	87
Appendix C:	Annotated Bibliography of Principal Sources of Postsecondary Education Issues	89

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FOREWORD

In June, 1974, a contract was awarded by the National Center for Education Statistics (NCES) to Government Studies & Systems, Inc. (GSS) of Philadelphia to undertake a multi-year project culminating in a manuscript for a handbook of terminology for nationwide use in records and reports about students in postsecondary education.

In the first year of activity on the project, the contractor studied and analyzed the "state of the art" in the terminology of records and reports about postsecondary students. The search for terms and definitions in actual use and the manner in which they are utilized led the contractor to a variety of education agencies and institutions. In developing a rationale for selecting and organizing such terminology, the contractor reviewed numerous publications and sought input from many practicioners. Handbooks, glossaries, dictionaries, reports, and data-collection instruments were reviewed extensively to ensure sufficient consideration of current concepts and terminology for postsecondary education and postsecondary students. Much of the outcome of this search for relevant and necessary postsecondary student terminology is reflected in this report.

The original manuscript for this publication was submitted to NCES in 1975 as a deliverable product called for under the terms of the contract. This manuscript later was updated to emphasize four portions that appear to have the greatest potential beyond the project, namely:

--The analysis of issue areas in higher education,

--The procedures used in analyzing issues, translating these issues into basic questions, and identifying the information items needed to obtain quantitative answers to the questions surrounding the issues,

--An illustrative data base for postsecondary education institutions, and

--The annotated bibliography.

As a fifth element, useful at the time but of less current significance, the report presented a proposed outline from which the postsecondary student terminology handbook later evolved through 6 drafts into its final form.*

Several sections of the original manuscript have been greatly shortened because of their minimal general interest and their diminished relevance over time, including chapter V (the proposed outline for the terminology handbook), the acknowledgments portion, and appendix B (a listing of the data collection instruments and reports reviewed).

This report has been submitted to the ERIC system as a companion document to the terminology handbook. It is anticipatd that the inclusion of this document in the ERIC system will make a useful resource available to persons and organizations seeking (1) a potentially valuable compilation of issue-oriented materials and (2) suggested procedures by which issues in postsecondary education might be translated into specific information needs, and these information needs then translated into relevant data. The analysis of such data should provide insights into the condition of postsecondary education in the United States and aid in making appropriate decisions for strengthening education institutions and processes.

John F. Putnam
Project Officer, NCES

*John F. Putnam, Postsecondary Student Terminology: A Handbook of Terms and Definitions for Describing Students in Postsecondary Education (Washington: U.S. Government Printing Office, 1980. U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, Education Records and Reports Series: Handbook XII, Bulletin NCES 79-409).

ACKNOWLEDGMENTS

This report was prepared by staff of Government Studies & Systems, Inc. (GSS) of Philadelphia under contract with the National Center for Education Statistics. Portions of the report were made possible through the cooperation and participation of persons representing Federal and State agencies, postsecondary education institutions, and persons affiliated with national professional organizations.

In the 6-page acknowledgments portion of the original 1975 version of this report, Jerome Ackerman, Associate Project Director of the GSS staff, acknowledged indebtedness to a number of persons for participating at meetings and for providing personal interviews and information concerning their views on postsecondary education issues and on student-related needs. These persons are categorized as follows:

25 in Federal agencies, including

- 6 in the National Center for Education Statistics,
- 14 in the U.S. Office of Education,
- 3 in the National Science Foundation,
- 1 in the National Institutes of Health, and
- 1 in the Health Resources Administration,

16 in agencies of 3 States--California, Colorado and Illinois.

10 in postsecondary education institutions in the same 3 States.

13 in a variety of professional organizations, including the American Association of Collegiate Registrars and Admissions Officers, the Education Commission of the States, the State Higher Education Executive Officers Association, the Association of Allied Health Professions, the Association of Independent California Colleges and Universities, the Colorado Private School Association, and the National Center for Higher Education Management Systems.

6 persons on the GSS staff or serving as consultants to GSS.

All these persons are identified by name in the manual subsequently published as Postsecondary Student Terminology: A Handbook of Terms and Definitions for Describing Students in Postsecondary Education (for publication information, see footnote on page v).

The National Center for Education Statistics hereby expresses its appreciation to the various persons who contributed in any way to the usefulness of this report.

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I. INTRODUCTION

A. Background

Postsecondary education in the United States consists of instruction, research, and community service in a vast number and variety of collegial, professional, business, industrial, and specialized institutions, as well as less formal settings. The education institutions may be public, quasi-public, or private, and are generally independent of one another. The financial structure supporting their existence represents a maze of Federal, State, local, and private funding streams.

Both the range of postsecondary education options and the number of Federal programs related to postsecondary education are increasing (e.g, student loans, career education). So many Federal agencies are involved that there is a new need for diverse data about students (and potential students) in proprietary schools, adult programs in public schools, area vocational-technical schools, and correspondence schools, as well as about those in traditional "higher education" or other forms of postsecondary education.

Section 1202 of the 1972 Amendments to the Higher Education Act authorizes the establishment of State postsecondary education commissions to do comprehensive planning, and these education plans require data and data manipulation capabilities, particularly for students and programs in new settings and innovative environments. The need exists for uniform or standard terminology:

1. For improving communication,
2. For improving statistical information used in --
   a. Policymaking

b. Planning

c. Operating education programs, and

3. For reducing reporting burdens on postsecondary education agencies and institutions.

The need for standard terminology also underlies the Higher Education General Information System (HEGIS) of the National Center for Education Statistics (NCES). Accordingly, in June, 1974, NCES selected Government Studies and Systems, Inc. (GSS) of Philadelphia, Pennsylvania, to carry out a multi-year project to help develop a handbook of terms and definitions about students in postsecondary education. This report is the first formal result of that project.

In defining the scope of this project, the following definition of a post-secondary education institution, as endorsed by the Federal Interagency Committee on Education (FICE), was taken as a guideline:

> POSTSECONDARY EDUCATION INSTITUTION - An academic, vocational, technical, home study, business, professional, or other school, college or university, or other organization or person offering educational credentials or offering instruction or educational services (primarily to persons who have completed or terminated their secondary education or who are beyond the age of compulsory school attendance) for attainment of educational, professional, or vocational objectives.

Institutions covered by this definition are included within the scope of the project. (See appendix A, page 82, for the complete annotated definition of postsecondary education institution.)

B. Report of the Analysis of Information Needs Related to Students and Overall Project Activities

1. Current Terms and Definitions in Use

One major stream of activity in the project is to appraise the

"state of the art" of currently used terms and definitions affecting students in postsecondary education. To that end, GSS has collected, extracted, and reviewed terms from data collection instruments, glossaries, data element dictionaries, manuals, and appropriate reports. Sources for these materials include: governmental agencies (both Federal and State); postsecondary education institutions; and national organizations that contribute special knowledge and advisory services, offer technical assistance and support, and/or provide direct educational services. Appendix B provides a list of the documents reviewed.

2. Policy Issue Analysis and Review

A second major element in the project is the identification of the most salient student-related issue areas that concern policymakers and planners in postsecondary education. An issue area is a broad, national concern affecting virtually all elements of postsecondary education. The issue areas lead to an inventory of essential information, or "typical tables," that are required for examining these issues and for making better decisions about postsecondary education. Issue-related terms about students then are extracted from the typical tables and become candidates for the handbook of terminology. This report on Postsecondary Education Policy Issues and Related Standard Terminology Needs presents the results of the issues review and analysis effort, and represents the completion of a major phase in the development of the handbook.

To determine current and future student-related postsecondary education policy issues, the project staff has:

a. Reviewed recent postsecondary educational literature concerned with policy issues and data needs; and

b. Interviewed Federal and State officials involved in postsecondary education, as well as representative of postsecondary education institutions and professional organizations, and others with expertise in the field (see Acknowledgments, page vi).

The information about issues gathered as a result of the activities mentioned above was then reviewed, analyzed, and combined and is reported in chapters II and III of this document. Appendix C is an annotated bibliography of the publications studied in the issue review and analysis phase.

C. Contents of the Report

This report is organized into five chapters with accompanying appendixes. Chapter I is an introduction. Chapter II, "Issues in Postsecondary Education Relevant to Information Needs About Students - Comments from Key Literature," is a narrative review of the important themes and problems that appear in the literature and discourse of policymakers. Chapter III, "The Structuring of Information Needs," presents specific issue questions, status subissues, typical statistical table shells, and suggested analytical subissues. Chapter IV, "An Illustrative Data Base for a Postsecondary Education Institution," shows the relationship between student terms and terms from such other files as staff, facilities, courses, and so on.

Chapter V, "Preliminary Outline for the Handbook of Terms and Definitions

About Students in Postsecondary Education," results in part from the issue analysis and shows the preliminary design of the projected handbook. Appendix A is entitled "Postsecondary Education Institution: Definition Endorsed by FICE;" Appendix B, "Materials Reviewed for Terms and Definitions, by Source of Resource Term;" and Appendix C, "Annotated Bibliography of Principal Sources of Postsecondary Education Issues."

The authors of this report cannot, of course, claim to have identified or included all of the issues. An abundance of problems and concerns occupy the minds of educational decisionmakers. It is almost inconceivable that any listing of issues, or any classification scheme for the issues, will be entirely satisfactory to all the leaders of the American postsecondary education system. Rather, our purpose is twofold: first, to distill from the broad range of policy discussions those recurring themes and phrases associated with what are defined as the most critical decision problems; and second, to translate these broad issues into more specific postsecondary education information needs. Thus, the association of information needs with issues provides a reasonable basis for identifying data as "needed" and for including terminology for these data in the handbook.

Further, the basic logic for developing the handbook involves a "matching" of what information is needed according to the issue analysis with what information is available, according to a review of existing data-collection instruments. Any gaps between the two sets of data will be identified and the requisite data items will be recommended for inclusion in the handbook. (Similarly, current items that appear

low in usefulness may be recommended for exclusion.) This project may, therefore, be viewed as the latest in a continuing series of efforts sponsored by NCES to identify or develop terms and definitions for use in data collection, records, and reports about education.

An important aspect of this project is the deliberate inclusion of both the collegiate sector of the postsecondary educational system and the paracollegiate (noncollegiate) sector. As the text will reveal, the recent expansion of these newer, untraditional segments of the system has generated many of the policy questions that concern education leadership. Because the array of postsecondary education institutions and programs has grown larger, the competition for students and for public and private dollars has increased, and the need for policy leadership has grown more intense and more complicated.

This report has been organized so as to provide increasingly detailed and technical material in successive chapters, each one of which is largely self-contained. Thus, readers with a general interest in the topic may find chapter II sufficient, while those concerned with the detailed data needs will want to study all or most of the material.

II. ISSUES IN POSTSECONDARY EDUCATION RELEVANT TO STUDENTS AND THEIR ATTENDANT INFORMATION NEEDS: COMMENTS FROM KEY LITERATURE

A. Introduction

Policy issues were identified by reviewing recent policy studies about postsecondary education issues and by discusing current and future postsecondary education data needs and issues with Federal and State officials and with representatives of institutions and national professional organizations. Among the primary sources reviewed were reports by the National Commission on the Financing of Postsecondary Education, the Carnegie Commisison on Higher Education, and the College Entrance Examination Board. (Citations for these publications and other studies reviewed in this step are in appendix C. The Acknowledgments indicate the types of persons contributing to the discussions.)

The information gleaned from the literature search and the discussions was analyzed to detect the major student-related themes of interest to postsecondary education leaders. (Readers interested in policy concerns other than those covered in this project should consult the bibliography in appendix C for appropriate references, particularly Financing Postsecondary Education in the United States, National Commission on Financing of Postsecondary Education, (Washington, D.C., U.S. Government Printing Office, December 1973), and Federal Policy Issues and Data Needs in Postsecondary Education, Draft Final Report (College Entrance Examination Board; Washington Office, 1974).)

A narrative description of information needs for the major student-related issues is presented in this chapter.

B. Major Goals of Postsecondary Education

Because policy issues faced by postsecondary education are numerous and complex (especially those regarding students), many educators have organized them under three major goals: (1) "Equality of opportunity"; (2) "Trained manpower"; and (3) "Lifelong learning or recurrent education."

"Equality of opportunity" is the one goal commonly agreed upon. The recent College Entrance Examination Board Study[1] of Federal policy in postsecondary education notes that this goal has three aspects.

The first is access. Students should not be barred from a postsecondary education on the basis of sex, age, race, income, ethnic group, prior educational achievement, and so forth. The meaning of access goes beyond admission, however. The National Commission on the Financing of Postsecondary Education states that access--

> "must mean assurance that participation is limited only by one's ability to meet reasonable standards applicable to all participants and by one's willingness to apply oneself to the required work. It must mean full participation in high quality programs that are meaningful according to one's needs, capability, and motivation."[2]

The second aspect is student choice among postsecondary educational opportunities. By "choice" is meant that "each individual should have a reasonable choice among those institutions of postsecondary education that have accepted him or her for admission."[3] Thus, if they are to have truly unrestricted access, students must have a real choice to attend a variety of institutions from which they seek to purchase educational services for which they qualify.

NOTE.--Footnote references are included at the end of the chapter on pages 28 and 29.

The third aspect of equality of opportunity is student opportunity. The Commission states that a student should be afforded every opportunity to meet his or her educational objectives. Accordingly, institutions should help meet the special needs of students by making "available academic assistance and counseling that will enable each individual, according to his or her needs, capability and motivation, to achieve his or her educational objectives."[4]

The second major goal is more difficult to define. In his article, "Policy Concerns for the Future," Clark Kerr calls this goal "trained manpower."[5] Some educators question heavy reliance on manpower needs in determining educational programs, especially when such needs are often difficult to predict accurately. Still, most educators agree that post-secondary educational institutions must be responsive in some way to the manpower requirements of the economy. Moreover, the notion of "career education," which has become important in Federal and State educational planning, clearly denotes the utilitarian goal of orienting educational services to meet manpower needs. Career education is concerned not only with job preparation, but also with making education sufficiently flexible and diversified so as to enable students to make meaningful career choices. To implement this goal, postsecondary educational policymakers need information on the relationship between courses of study and patterns of employment.

The third major goal of postsecondary education is lifelong learning or recurrent education. This broad and vaguely-defined area of concern cannot be viewed altogether separately from the questions of equality of opportunity and trained manpower. As stated in Anticipating Educational

Issues Over the Next Two Decades: "Increased competitiveness for relatively scarce jobs will encourage a shift to education as a lifelong process in order to update or learn new skills."[6] To analyze policy relative to this goal, information is required as to whether older and, most probably, part-time students have equal access to a broad range of postsecondary educational institutions, and whether the programs in which they enroll actually lead to new job possibilities.

"Lifelong learning" does not fall entirely into the category of career education. Alexander Mood observes in The Future of Higher Education: "Notwithstanding mechanization, the majority of jobs will continue to be rather dull and definitely not deserving of one's major interest in life. They are simply tasks that must be done to keep us all supplied with the necessary goods and services . . . . Thus we find more and more people developing careers outside their jobs."[7] Consequently, many people will enroll in postsecondary education institutions to take up such second "careers," or activities as will enable them to cope with increasing leisure time resulting from short work weeks or early retirements. Yet, in many instances, it may be difficult to distinguish between education for recreation and education for knowledge leading to a second career that eventually becomes a main career.

Finally, some statistical and procedural issues must also be considered. The final report of the eighth annual conference on the Higher Education General Information Survey (popularly known as HEGIS) notes that "although the focus of the meeting was on the kinds of information needed to address issues in higher education, five of the eight major concerns identified by the participants deal with the processes of data collection and reporting."[8]

"Accountability in Education: The Michigan Experience," a study of the difficulties encountered in collecting data for the educational assessment of Michigan's secondary school system, emphasizes the excessive time required to collect the data and the inhibiting costs incurred in data publication. It also describes the furor over the data's publication, concluding that "accountability schemes must operate in a distinctly non-technocratic, political environment."[9] But, although data collection and reporting problems must be taken into account, they lie outside the scope of this analysis that is concerned with the kinds of information needed for substantive issues related to postsecondary education.

1. Equality of Opportunity

Most educators agree that economics and financing are key factors affecting equality of opportunity. Other relevant variables needed to determine whether the goal of equality of opportunity is being attained are: the location of educational programs, the scheduling of classes, the effect of the student's ability, and the available counseling.

a. Financial Issues

Federal and State grants or loans to students clearly affect, and are affected by, the cost of tuition at different postsecondary educational institutions in any particular geographical area. The tuition costs, in turn, affect equality of opportunity. The main question, as asserted by the authors of A Framework for Analyzing Postsecondary Education Financing Policies, is: "What measures should be employed to describe the extent to which alternative financing policies and mechanisms serve the chosen objectives?"[10]

[11]

The relevant data would measure the success of any particular financing policy in terms of: (1) whether participants are entering programs and institutions that can fulfill their needs, capabilities, and interests; (2) whether those participating complete their educational objectives; and (3) whether those completing their educational objectives obtain a position in the field for which they were trained or in a field they find financially and personally rewarding. Data are also required on the cost of administering aid programs.

A key financial issue is the way need is determined. Representative Albert Quie argued recently that loans should not be based on family need; rather, the borrower should be thought of as an adult.[11] Some basic information needs are: How many students in postsecondary education institutions enrolled in a particular program for financial reasons, and how many utilized each particular aid program. Furthermore, information is required about those high school graduates who did not go on to postsecondary education institutions because of financial problems.

Innovative strategies for the financing of postsecondary education are being considered. For instance, vouchers with which to finance postsecondary education might be given to everyone in a certain age group. To evaluate such proposals, information would be needed on how the demand for education might change in relation to the amount of the voucher and how the new demand compares with projected capacity of postsecondary education institutions.

The evaluation of financial policies is complex. It is difficult to measure the economic benefit of financial aid programs, because it is hard to assess the impact of education on income. Margaret S. Gordon, the editor of Higher Education and the Labor Market, says that "there has been a growing emphasis on the concept of human capital, accompanied by efforts to estimate the rate of return to investment in education."[12] But Richard S. Eckhaus argues, in Estimating Returns to Education: A Disaggregated Approach, that the full import of return on investment data remains "so obscure that they (the data) cannot be used to form a policy for the allocation of resources to education."[13] It should be kept in mind, as another Carnegie study makes clear, that "traditional loan concepts, borrowed from the world of commerce and industry, where physical plant suffers from depreciation and obsolescence, are not equally appropriate to investment in human capital."[14]

b. Locational Issues

The locational issue focuses on the effect of an institution's location in ensuring optimal access to its services. Although one recent study, Where Colleges Are and Who Attends, argues that "spatial accessibility has little effect, for most youth, on whether they attend college,"[15] another study, A Statistical Portrait of Higher Education, contends that "it is well to recall that students living within 25 miles of a college are twice as likely to go to college as those living beyond 25 miles."[16] Accessibility, in this locational sense, may well prove a more significant factor in the future, when more people will be part-

time students. To analyze these issues, data are required on the distribution of population and students within commuting distance or commuting time of a postsecondary education institution, with attention to various population characteristics.

The ideal choice also requires that an institution exists within commuting distance, but also that it offer the kinds of programs a student may want. Thus, information about the distribution of postsecondary education institutions by type of program and by level of courses is needed. Also, behavioral data about how students perceive distance in relation to program offerings (and cost) are required.

c. Student Ability

Opportunity must relate to a student's ability. Is a student's ability and preparation (academic and occupational) a significant factor in his choice of a postsecondary education institution? Why do some persons fail to enroll in any form of postsecondary education? What is the effect of the level of difficulty of the offerings?

d. Scheduling

Class schedules may also play an important part in a student's choice of programs. With the increase in part-time enrollment, certain scheduling patterns may prevent access. Information should therefore be acquired to determine if scheduling problems are an important factor in a student's choice of a particular program of study.

e. Student Choice Behavior

A full explication of the barriers that inhibit students from realizing aspirations of postsecondray education would entail research into the "choice models" that students and their counselors employ in choosing institutions and programs. The counseling process frequently appears "non-rational," that is, lacking any systematic criteria or procedures for selecting postsecondary plans. Formal studies in this area might show that the conventional wisdom about cost and access barriers are incorrect, and that less obvious factors dominate decisions.

In summary, the kinds of information needed to be gathered are not only the traditional data on a student's economic status and educational level, but also information on why a student chooses a particular program of study at a particular school. Information is needed to explain why some youths who have reached the appropriate age choose not to enroll in any form of postsecondary educational institution. In addition, data on educational history, job history, and enrollment status (part-time or full-time) is required for every student, since more and more students will be engaged in lifelong learning. All this information would give policy-makers insights into what distribution of the various kinds of postsecondary education institutions and what mix of financial arrangements would maximize equality of opportunity.

2. Trained Manpower

Along with the goal of equality of opportunity, the question of trained manpower must be addressed. It is difficult to justify

publicly supported programs which offer students little hope of future employment.

The relationship of educational outputs to job skill requirements is complex, and this fact in itself implies the need for a study of information requirements regarding job functions and the acquisition of skills. Two of the questions that must be dealt with are: (1) What makes students choose a particular career; and (2) What relationship exists between employment success and specific courses of study?

a. Student Demand

The National Commission on the Financing of Postsecondary Education reported that only limited data are available on the effect of various policies on student demand for postsecondary education. Some of the variables influencing student demand for courses of study are those already mentioned: financial aid, accessibility, and ability. There is also the question of how students perceive local and national manpower needs. As Richard E. Peterson observes in his study, American College and University Enrollment Trends in 1971, "students are . . . sensitive to well-publicized national currents . . . ."[17] Thus, the demand for particular courses of study may fluctuate according to what careers students perceive as interesting, relevant, and economically rewarding at any given time. For example, the demand for careers in law has increased recently, even though the prospects for jobs as lawyers remain discouraging. To analyze these matters, data are required to match students' initial (pre-postsecondary education) career choices, their final career choices, and their eventual area

of employment.

Estimating the effect of popular choices on manpower requirements is further complicated by the fact that the relationship between employment patterns and a course of study is not clear. This is especially true for liberal arts programs.

In addition, the characteristics of the demand (in an economic sense) for postsecondary education must be better understood. That is, what is the price elasticity? Would demand be affected if the cost of popular programs increased, or if the cost of unpopular programs decreased?

b. Career Choice and Employment Success

If postsecondary education is to fulfill career goals, it is important to know more about the relationship between education programs and employment, particularly in the paracollegiate sector where occupational goals are usually the major concern. As stated in the Carnegie Commission report, "Towards a Learning Society," "meaningful information on noncollegiate postsecondary education cannot be collected by simply obtaining data from this universe using terminology developed for data on colleges and universities."[18]

Measurements must take into account education for retraining as well as for initial job success. A particular postsecondary education institution may be very successful in placing its graduates immediately after they leave school, but these graduates may not have a good chance to move up a career ladder. As Rupert N. Evans and Gordon McCloskey observe in their article,

"Rationale for Career Education": "It becomes increasingly difficult, if not impossible, to predict exact local levels of employment in particular categories. . . . Trends indicate the growing stake of individuals, localities, and States in career education plans that maximize worker adaptability and readiness for retraining."[19] If, as many educators suggest, lifelong learning becomes the major trend in education, postsecondary education must be judged for its ability to retrain individuals as well as to train them.

3. Lifelong Learning

Lifelong learning is concerned with providing opportunities for the postsecondary-age population to re-enter formal postsecondary education throughout their careers, either for training and retraining to further their employment and promotional goals or to generally enhance their lives.

Although the manpower aspects of lifelong learning cannot be overemphasized, it should be kept in mind that in the future a sizable percentage of people will be working at jobs below their training and intellectual capacity. Several studies suggested that by 1980 only 20 percent of the jobs in this country would require more than a high school education. Yet, as many as 50 percent of the work force were expected to hold college degrees by that time, and that figure may become even higher.[20] Therefore, it is unrealistic to assume that all people will find their employment productive and satisfying. Even those people whose jobs are satisfying may need resources to cope with the increasing amount of their leisure time.

Thus, data about programs, courses, and educational services that do not directly address the problem of job-preparation or career enhancement are among the most important needs that have emerged. These postsecondary activities--most of them offered for the nontraditional (over 21) student--provide opportunity for intellectual enrichment, improving recreational skills, participating in the arts and practical crafts, developing human potential, and achieving self-improvement. Such activities represent an ever-increasing proportion of the product of colleges and universities and are even the main function of several "alternative" institutions and centers that attract adult learners. It is important, therefore, to address the terminology and data-gathering problems related to non-career programs, particularly to the types of people enrolling in such courses, and to their purposes.

C. Information Needs of State, Community, and Institutional Levels

Although State information needs often coincide with national ones, some questions are solely the concern of the States, e.g., the relationship of tuition levels in a State's postsecondary educational institutions to the capacity of these institutions, to their location, and to the kinds of programs they offer. The tuition question cannot be viewed separately from that of whether States should operate postsecondary institutions directly or subsidize them, and whether--if they do subsidize the institutions--they should allocate money to the schools or to the students. Because the current trend is toward a blurring of the difference between private and public postsecondary institutions, the question in most cases is what financial arrangements and what mix of institutions and tuition levels will best promote equality of opportunity and result in programs that help meet the State's manpower needs.

Because the Federal Government's financial support of education has fluctuated in recent years, information is clearly needed for policy-makers at both the State and Federal levels to determine exactly what the Federal Government's financial role should be in postsecondary education--not only the amount of money it should allocate but also in what form the money should be allocated. Representative Edith Green, for example, argued recently that the Federal Government is the most inefficient distributor of such money, and that "the financial resources of the Federal Government are necessary to our educational system but the preservation of local control over priorities, plans, and objectives is equally necessary."[21]

The tuition question is important in relation to State-financed institutions. It has been argued that low-tuition, State-supported institutions tend to drive private colleges out of existence, and that they are, in effect, subsidizing upper middle-class students who can afford to pay more for education than public institutions charge. Likewise, the question of whether State money is best allocated to students or to institutions is a critical issue, requiring evaluation of the impact of this allocation problem on different types of institutions.

Monies provided directly to institutions are said to have an inflationary effect by stimulating capital projects and program expansion, independent of demand or (manpower) need. In contrast, student entitlements may tend to stimulate institutional responsiveness and sensitivity to "market" considerations. However, at some levels (graduate, for example) the argument for allocations made directly to students may not be practical. Because institutional costs are higher at the graduate level, and tuition provides a

smaller proportion of total graduate educational cost, the most effective policy here may be institutional grants.

Another policy issue that directly pertains to the States is the residency requirement. As stated in a Carnegie Commission report, The Capitol and the Campus: State Responsibility For Postsecondary Education: "Lack of uniformity in residence requirements among States could lead to situations in which a student would not qualify as a resident of any State."[22] The question of residence requirements, like that of tuition differentials, must be assessed with different criteria when considering different levels of programs. Programs at the graduate and professional level, for example, usually serve the needs of a region or the entire Nation, rather than a single State.

Information is required on the effect that residency requirements, as well as a State's distribution of postsecondary education institutions, have on equality of opportunity and manpower needs. Information on migration among States is also needed.

Institutional capacity is another important area of concern. Data are required on the number of student stations available, the number of applicants, and the number rejected. Such information is necessary for planning postsecondary education institutions, and helps prevent duplicate programs.

To assess programs within specific institutions, information is needed about the number of applicants, the number of acceptances, the actual enrollment, the number of students completing the program, and finally the employment record of those graduates. The employment record is especially important to the paracollegiate sector of postsecondary education, for many

of these institutions are, by definition, designed only for training students for and placing them in specific vocations. It may be argued that these institutions must provide the type of education for which the student "contracted." Representative Pettis has recently pointed out that "a growing number of Americans are deeply in debt to government because of loans acquired to attend worthless classes."[23]

The information needs at the local and institutional levels in many ways correspond to those at the State level, especially with regard to the most effective financing arrangements. Community colleges have a revenue base different from that of other institutions. As Robert O. Berdahl observes in Statewide Coordination of Higher Education, "They are competing with public schools for local property taxes as well as for general State revenues."[24] Therefore, community colleges need information to show that they are of value to the community. They also need data on the number and percentage of postsecondary-education-age population in their service area (i.e., within commuting distance), the number and proportion enrolled at the institution (both full-time and part-time) as a proportion of the total college-age population in the area, the number and proportion enrolled in other postsecondary education institutions, and those not participating in any postsecondary education activities.

Community colleges and paracollegiate postsecondary education institutions also need information describing their success rate in specific job training programs, so as to plan occupationally oriented programs.

(Institutions require data for operational functions as well as for issue analysis. These operational data requirements are derived from current usage and are not the subject of this report.)

D. Issue Areas and Issue Questions

At the highest level of abstraction, the main concerns of postsecondary education leaders may be grouped into three broad categories:

- Equality of educational opportunity,
- Trained manpower, and
- Lifelong learning.

To clarify the data implications of these three broad issue areas and to eliminate some of the overlaps, the project staff has developed four somewhat more specific student-related issue areas. The first, equality of educational opportunity, is broken down into two issue areas: financing postsecondary education and barriers to postsecondary education. Manpower is preserved separately as a third issue area. The fourth, lifelong learning, is included in the area of improved delivery systems, because it is properly regarded as a special instance of the more general problem of how to deliver postsecondary educational services to a full range of post-secondary age persons. A fifth issue area, staff opportunities and benefits, does not relate directly to student data needs, but it does represent a substantial portion of the educational issue literature. It also bears some marginal relationship to many of the subissues in the other categories, e.g., faculty tenure and the relationship between alternate schemes for financing institutions. Accordingly, staff opportunities and benefits have been included and defined at a preliminary level.

Associated with each of these issue areas is a nearly inexhaustible list of issue questions, intended to define the peculiar interests of various factions and levels of jurisdiction. These questions are posed mostly at institutional, State, and national levels, but using different

levels of aggregation. More specific issue questions for each of the issue areas are as follows:

1. Financing Postsecondary Education Institutions:
   - 1.1. What proportion of public wealth should be allocated for public postsecondary education?
   - 1.2. What bases should be used to determine the amount of public support of private and proprietary institutions?
   - 1.3. What should be the relative distribution of public money between institutions and individuals?
   - 1.4. What policies should be adhered to in distributing monies between collegiate and paracollegiate programs, and in what amounts should these monies be distributed?
   - 1.5. What devices of repayment can be used to shift the cost of postsecondary education to the consumer?
   - 1.6. What cost-controlling techniques and technologies can be introduced into postsecondary education?
   - 1.7. What are the cost consequences of collective bargaining and affirmative action?
   - 1.8. What are the cost consequences of tenure?

2. Barriers to Postsecondary Education:
   - 2.1. What are the financial barriers for various groups* that prevent them from participating in certain postsecondary education institutions?

*Groups include: minorities, women, veterans, those over 30, senior citizens, handicapped or disabled, children from "middle class families," the poor.

2.2. What are the access and location barriers for some groups that prevent them from participating?

2.3. What are the social and discrimination barriers for certain groups that stand in the way of their participation?

2.4. What are the ability and preparation barriers for various groups that reduce their chances to participate?

2.5. What forms of special assistance should be provided for high risk students during postsecondary education?

2.6. What forms of regulation, if any, should be used to manipulate the proportion of representation of various groups in student bodies?

3. Postsecondary Education vis-à-vis Manpower Needs:

3.1. What is the projected output of postsecondary education programs versus the manpower needs of correlated occupations?

3.2. What standards should govern public policy regarding support of programs for which no manpower needs exist?

3.3. What is the current marginal use of the various forms of postsecondary education for the student?

3.4. What is the economic consequence of "open" or "loosened" admissions policies?

3.5. What are the nonoccupational benefits of postsecondary education, and how may they be quantified?

4. Improved Delivery Systems:

4.1. What are the uses of new communications technology, including the electronic computer, in providing postsecondary education instruction?

4.2. What alternative patterns of time and residence are available to postsecondary education students?

4.3. What facility and site alternatives are used by students in postsecondary education?

4.4. What specialized programs have been developed for the handicapped/disabled, the non-English speaking, persons in outlying areas, and others with access problems?

4.5. What free and voluntary postsecondary education programs are available, and to whom?

4.6. What forms of competence testing are available to students?

5. Staff Opportunities and Benefits:

5.1. What has been the effect of law and various programs on the representation of target groups in postsecondary education faculties and staffs? What has been the effect of these programs on promotion within these faculties and staffs?

5.2. What are the effects of collective bargaining on program quality and cost, and on employee income and benefits?

5.3. What is the effect of strikes on the working conditions of professional and nonprofessional employees of postsecondary education institutions?

5.4. What are the effects of tenure on cost, affirmative action, and curtailment of low-priority programs? What alternatives to tenure exist?

5.5. What are the alternative patterns of staff/faculty participation in governance and management in postsecondary education?

5.6. Which classes of higher education employees will be in greatest and in least need over the next several years?

These issue areas, issue questions, and related information needs in the form of table specifications are the subjects of chapter III.

Footnotes for Chapter II

1 College Entrance Examination Board - Washington Office, Draft Final Report, Federal Policy Issues and Data Needs in Postsecondary Education (Washington, D.C.: College Entrance Examination Board, 1974), pp. 111-114.

2 The National Commission on the Financing of Postsecondary Education, Financing Postsecondary Education in the United States (Washington, D.C.: U.S. Government Printing Office, 1973), p. 55.

3 Ibid.

4 Ibid., p. 56.

5 Kerr, Clark, "Policy Concerns of the Future," The Expanded Campus: Current Issues in Higher Education, Dyckman W. Vermilye, Ed. (San Francisco: Jossey-Bass Book Company, 1972), p. 12.

6 Anticipating Educational Issues Over the Next Two Decades: An Overview Report of Trends and Analyses (Menlo Park, Calif.: Stanford Research Institute, 1973), p. vi.

7 Alexander M. Mood, The Future of Higher Education (New York: McGraw-Hill Book Co., 1973), p. 10.

8 U.S. Office of Education, National Center for Education Statistics, Higher Education Surveys Branch, Final Report of Eighth Annual Conference on Higher Education General Information Survey (HEGIS) (Washington, D.C.: U.S. Office of Education, 1972), p. 11 (footnote).

9 Jerome T. Murphy and David K. Cohen, "Accountability in Education: The Michigan Experience," The Public Interest, No. 36 (Summer, 1974), 53-81.

10 The National Commission on the Financing of Postsecondary Education Staff Report, A Framework for Analyzing Postsecondary Education Financing Policies (Washington, D.C.: U.S. Government Printing Office, 1974), p. 12.

11 Rep. Albert Quie speaking about student loans, Congressional Record, February 27, 1974.

12 Margaret S. Gordon, ed., Higher Education and the Labor Market (New York: McGraw-Hill Book Co., 1974), p. xviii.

13 Richard S. Eckhaus, Estimating the Returns to Education: A Disaggregated Approach (New York: McGraw-Hill Book Co., 1973), p. x.

14 Carnegie Commission on Higher Education, Higher Education: Who Pays? Who Benefits? Who Should Pay? (New York: McGraw-Hill Book Co., 1973), p. 119.

15 Charles A. Anderson, Where Colleges Are and Who Attends: Effects at Accessibility on College Attendance (New York: McGraw-Hill Book Co., 1972), pp. 26-27.

16 Seymour E. Harris, A Statistical Portrait of Higher Education (New York: McGraw-Hill Book Co., 1972), p. 3.

17 Richard E. Peterson, American College and University Enrollment Trends in 1971 (New York: McGraw-Hill Book Co., 1972), pp. 30-31.

18 Carnegie Commission on Higher Education, Towards a Learning Society: Alternative Channels to Life, Work, and Service (New York: McGraw-Hill Book Co., 1973), p. 71.

19 Rupert N. Evans and Gordon McCloskey, "Rationale for Career Education," The Journal of Aesthetic Education, VII, No. 4 (1973), 18.

20 Carnegie Commission on Higher Education, College Graduates and Jobs: Adjusting to a New Labor Market Situation (New York: McGraw-Hill Book Co., 1973), p. 2.

21 New York Times, June 16, 1974.

22 Carnegie Commission on Higher Education, The Capitol and the Campus: State Responsibility for Postsecondary Education (New York: McGraw-Hill Book Co., 1971), p. 58.

23 Congressional Record, December 12, 1973.

24 Robert O. Berdahl, Statewide Coordination of Higher Education (Washington, D.C.: American Council on Education, 1971), p. 230.

III. THE STRUCTURING OF INFORMATION NEEDS

1. Introduction

In this chapter, the broad issues and themes presented in Chapter II are discussed within the five major issue areas previously defined, and each area is further analyzed into specific policy-relevant questions. For each question there are status subissues or subquestions that ask about the current state of some particular set of variables relevant to the main question. For each set of status subissues there are typical table-shell (report) specifications, showing the data needed to describe the current value of the status subissues.

In addition, each question includes a set of analytical subissues, which raise questions about the future of postsecondary education, in relation to the main issue question, assuming changes in enrollment and other such influences on the postsecondary education system. Generally, the typical tables required to describe the analytical subissues are the same as those required for the status subissues. The main differences are that the analytical subissues may be at a higher level of aggregation, and that they are projections of the corresponding data in the status tables. Since the subissues are complex, more than one report may be required to display the data.

The typical tables are input for specifications for information systems, since they describe the output reports in terms of format and data that might be required from an information system to help address the issues. The inclusion here of a typical table, however, does not mean that the data are recommended for collection; the data user must make that determination.

The typical tables in this chapter are statistical reports or listings presented in sentence form. Exhibit IIIa illustrates the statement of typical tables in narrative form with inclusion of the corresponding issue area, issue question, and status subissue. Figure IIIa shows how the first report specification stated in Exhibit IIIa would look in tabular form.

The "by" dimensions of the typical table in Figure IIIa (e.g., by type of institution) form the rows and columns of the table shell. Further, the term "distribution of enrollment" refers to the number and/or percentage enrolled. Before studying the typical tables, and while reviewing them, the reader should refer to Exhibit IIIb, page 35, which lists categories implied by typical table terms that are arranged in alphabetical order. The illustrative categories define the terms used in the tables.

In summary, the material in this chapter is presented in terms of:

1. Issue Area: a broad category of inquiry (e.g., Financing Postsecondary Education);

2. Issue Question: a major question asked in connection with an issue area (e.g., What should be the relative distribution of public money between institutions and individuals?);

3. Status Subissues: an index or set of variables that present recent or current performance of the system on a dimension relevant to the Issue Question (e.g., What has been the inflationary effect of institutional entitlement versus student entitlement?);

Exhibit IIIa

Issue Area 2

Barriers to Postsecondary Education

Issue Question 2.3

What are the social and discrimination barriers for certain groups that stand in the way of their participation?

Status Subissue

What is the representation of women and minority students in post-secondary education, by State and by type of institution?

Typical Tables

Distribution of college-age population, by civil rights racial/ethnic category, by sex, by State, by year.

Distribution of enrollment, by type of control, by type of institution, by civil rights racial/ethnic category, by State, by year.

Distribution of enrollment, by type of control, by type of institution, by sex, by State, by year.

FIGURE IIIa

Example of Output Report Based Upon a Typical Table Specification

Distribution of Enrollment By Type of Control,
By Type of Institution, By Civil Rights Racial/Ethnic Category

	Number of Persons										Percentage of Enrollment									
	In Public Institutions					In Private Institutions					In Public Institutions					In Private Institutions				
	*Hisp.	*Amer. Ind., etc.	*Asian etc.	*Black not Hisp.	*White not Hisp.	*Hisp.	*Amer. Ind., etc.	*Asian etc.	*Black not Hisp.	*White not Hisp.	*Hisp.	*Amer. Ind., etc.	*Asian etc.	*Black not Hisp.	*White not Hisp.	*Hisp.	*Amer. Ind., etc.	*Asian etc.	*Black not Hisp.	*White not Hisp.
Collegiate Institutions:																				
Research Universities																				
Doctorate Granting																				
Comprehensive Colleges																				
Two-Year Colleges																				
All Others																				
Total Collegiate																				
Paracollegiate Institutions:																				
Technical/ Vocational																				
Business/ Commercial																				
Trade Schools																				
All Others																				
Total Para-collegiate																				
Grand Total											100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

*Abbreviations for the racial/ethnic group categories mean the following:

Hisp. - Hispanic;
Amer. Ind., etc. - American Indian or Alaskan Native
Asian, etc. - Asian or Pacific Islander
Black not Hisp. - Black not Hispanic
White not Hisp. - White not Hispanic

4. Typical Table: a table shell, which arrays data relevant to one or more status measures (e.g., Average annual rate of change in per student cost by sector, versus average annual rate of change in per capita income, by year); and

5. Analytical subissues: a projection or manipulation of the values in a status table, developed by running a simulator or other analytical procedure to test the future consequences of current trends or policy alternatives (e.g., What is the projected impact in terms of costs, growth, survival, and enrollment of targeted groups associated with continuing current policies on the institutional-versus-individual entitlement mix?).

EXHIBIT IIIb

Illustrative Categories for Terms
Used in Typical Tables*

Admission basis: Secondary school graduation (rank/GPA), previous higher education, examination, individual approval, other.

Aspiration, type of: Educational aspirations, such as less than high school graduation, high school graduation, college, postsecondary technical training, etc.; and such vocational interests as employment, military service, homemaker, and general life enhancement. Each of these categories can be further detailed. For example, the college category under educational aspirations can be defined to include: complete 2-year college, complete 4-year college, beyond baccalaureate degree, masters degree, etc., while the employment category can be shown by occupation.

Assignment, type of: Executive, instructional, professional, technical, office/clerical, crafts and trade, service, etc.

Benefit cost-ratio expressed in tax benefits: The revenue yield from taxes associated with alternative patterns of public support for postsecondary education.

Benefits: Retirement plans, medical plans, disability income protection, group life insurance, etc.

Certificate, type of: certificate, diploma, degree, other.

Civil rights racial/ethnic category: Hispanic; American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic Origin; and White, not of Hispanic Origin.

Community, type of: SMSA's (further subdivided into population ranges) and counties not in SMSA's.

Control, type of: Public institutions under Federal, State, or local control and private institutions that can be categorized as proprietary, private nonprofit, etc.

Disadvantagement, type of: An atypical mental, physical, behavioral, economic, or cultural condition that adversely affects the performance of an individual. (See "Special characteristics of students.")

Educational attainment: The highest level of education completed.

*This exhibit contains illustrative categories for terms whose definitions are not apparent from the term itself. Categories are intended to provide some sense of the meaning of terms. This exhibit does not contain definitions for all the terms in the typical tables.

Employment status: Employed (including military service, civilian-agricultural and nonagricultural), unemployed, not in the labor force.

Expenditure, function of: Instruction, research, plant maintenance, libraries, student aid grants, auxiliary services and enterprises, research, administration, other.

Expenses: Tuition and fees, living expenses (food, rent, etc.), books and supplies, etc.

Facility, type of: A piece of land, building site, building, or part of a building.

Financial aid, sources of: Scholarships, fellowships, employment, grants, and loans. Also includes specific program in which participating organization level provides funds (i.e., Federal, State, institutional, or other).

Free and voluntary postsecondary education opportunities: Postsecondary education opportunities in which the staff and resources are contributed by individuals or organizations as a public service, and in which students pay little or no fee.

Housing, type of: Information about an individual's type of housing, e.g., parent's home, boarding house, rooming house, college-operated house, fraternity or sorority, cooperative house, apartment, separate home, room in single-family dwelling.

Income, sources of: Benefits (e.g., veteran's benefits, social security), financial aid (e.g., scholarships, grants, loans, employment subsidies, etc.). If desired, each of these income types could be further categorized by specifying the governmental program (e.g., BEOG, NDSL, etc.).

Income, type of: Support, benefits, employment salary, financial aid, and income from assets.

Income category, family: A grouping into ranges of the combined income of all members of each family.

Institution, size of: Size of an institution in terms of its enrollment.

Institution, type of: Noncollegiate postsecondary schools, and collegiate institutions, such as 2-year colleges, specialized or professional institutions, general baccalaureate colleges, comprehensive institutions, and major doctoral-granting institutions.

Leave status: Annual, sabbatical, leave of absence, leave without pay, etc.

Marital status: The legal status of an individual with respect to marriage, e.g., unmarried (never married, widowed, divorced), married (spouse present, spouse absent).

EXHIBIT IIIb--Continued

Occupation: White collar workers (professional and technical, managers and administrators, excluding farm, sales workers, clerical workers), blue-collar workers (craft workers, operatives, nonfarm laborers), service workers (private household workers, other service workers), and farmworkers. (Under each of these major headings, occupations can be specified.)

Open Admission: The relaxation of standards for admission to a relatively low academic level (such as a high school diploma) or the complete elimination of any entrance requirement for a selected population (e.g., residents of a certain State or community), or the utter elimination of all requirements for admission.

Program: For collegiate institutions: liberal arts, professional, teacher preparation, other occupational, and 2-year transfer. For paracollegiate: agri-business, marketing distribution, health, home economics, business and office, technical, and trade and industrial.

Program level: Lower division, upper division, graduate, professional, etc.

Program type: Professional, subprofessional, technical, etc.

Rank: Administrators, professors, associate professors, assistant professors, instructors, etc.

Relationship with postsecondary institution, type of: indicates the type of relationship existing between free and voluntary postsecondary education opportunities and postsecondary education institutions.

Residency status: In-State, out-of-district, out-of-State.

Revenue, source of: Federal, State, local, institutional.

Sector: The sectors into which postsecondary education institutions are divided, i.e., collegiate and paracollegiate.

Socioeconomic status (of students): Occupation of mother or father, educational attainment of parents, family income, eligibility for special programs, etc.

Special characteristics of students: Gifted and talented, physically handicapped, socially and/or emotionally handicapped, other characteristics such as culturally disadvantaged, bilingual, migrant, subject-matter deficiency, etc.

Staff, type of: Official/administrative, professional-educational, professional-other, technical, office/clerical, etc.

Student attendance status: First-time student, new student, continuing student, transfer student, readmitted student.

Exhibit IIIb--Continued

Student level: Undergraduate - freshman, sophomore, junior, senior; graduate, postdoctoral, and other.

Student participation status; Full-time, part-time, leave of absence.

Student registration status: Degree student, certificate student, diploma student, unclassified student, special student, auditor.

Student standing: The institutional designation of the student in relation to minimum academic and/or disciplinary requirements of the institution, e.g., good standing, academic probation, and disciplinary probation.

Tenure status: Tenured, nontenured, ineligible.

Withdrawal, reason for: Transfer, completion of schoolwork with graduation or other completion, death, dropout (by various reasons, e.g., health, employment, academic difficulties, etc.), unknown.

1. Financing Postsecondary Education Institutions

The questions associated with financing postsecondary education are mainly concerned with matters of equity and efficiency. The issue of equity becomes more problematical as the overlap and competition among the various forms of postsecondary education become more intense. Thus, policymakers, for example, must deal with the problem of investing in private institutions, while public institutions express even greater demands. Also, within the private component there are further conflicts between tax-exempt and taxpaying institutions and between collegiate and vocational programs.

While to some degree the basis for these sensitive distributions is political and dictated by custom, there are also considerations of efficiency involved--especially when very different public costs are associated with similar outputs (such as specialized manpower). Moreover, alternative subsidy mechanisms have different effects on the costs of service. Granting funds directly to students rather than to institutions, for instance, can have a significant impact on the economics of postsecondary education.

An example of a problem involving the overlapping issues of equity and efficiency is that of determining how much of the cost of education should be borne by the student and what repayment mechanisms are in the best interests of the consumer, the provider, and the general economy.

Issue 1.1 What proportion of public wealth should be allocated for postsecondary education (public support for both privately and publicly controlled institutions)?

Status Subissues:

What proportion of the GNP is expended for various forms of postsecondary education?

What proportion of disposable family income for various demographic groups is used for direct purchase of postsecondary education?

What is the trend relationship between costs of postsecondary education and government subsidy for various types of institutions in per-student terms?

What is the individual and corporate tax burden for support of postsecondary education?

Typical Tables

Average annual per student expenses for postsecondary eudcation, by sector, by type of institution, by year, as a percent of GNP.

Expenses for postsecondary education as a percent of GNP, by sector, by type of institution, by year.

Expenditures for education, by sector, by year, and as a percent of GNP.

Percent change in per capita income (GNP), and percent change in expenditures per student, by year.

Personal consumption expenditures, by object of expenditure, by year, including education as an object of expenditure.

Percent of family income expended for postsecondary education, by family income, by type of institution, by civil rights racial/ethnic category, by socio-economic status, by year, by State.

Expenses and government allocation per student, by sector, by type of control, by source of revenue, by type of institution, by State, by year.

Proportion of family and corporate income paid for postsecondary education, via local, State, and Federal taxes, direct or indirect, by income range, by State, by year.

Analytical Subissues:

What is the projected impact on tax burden and family income of maintaining current policies and public investment in private and public postsecondary education?

What is the projected impact on tax burden and disposable family income of various full-funding alternatives for postsecondary education (that is, various levels of Federal/State guarantees to eligible students)?

What is the projected impact on schools, colleges, and other institutions of various levels of curtailment in the major Federal/State investment programs in postsecondary education?

Issue 1.2 What bases should be used to determine the amount of public support of private and proprietary institutions?

Status Subissues:

How many dollars in government-supported student grants/loans, etc. (including veteran benefits) are going to various types of postsecondary education institutions?

What are the average tuition/fee costs for various types of postsecondary education institutions?

What is the recent trend in "number of stations" in various institution types?

Analytical Subissues:

What would be the average tuition/fee costs for various types of postsecondary education institutions?

What should be the trend in "number of stations" for various institution types?

What is the projected impact in terms of growth, costs, and survival for public and private postsecondary education institutions of current policies on investment? Of alternative policies?

Typical Tables

Institutional income, by revenue source, by sector, by type of control, by type of institution, by type of income, by year.

Average expenses per student, by student participation status, by residency status, by student registration, by sector, by type of control, by type of institution, by type of expense, by year.

Average income as a percent of total expenses, by sector, by type of control, by type of institution, by type of expense, by year.

Capacity in stations and enrollment, by type of control, by sector, by type of institution, by room use categories, by year.

Issue 1.3 What should be the relative distribution of public money between institutions and individuals?

Status Subissues:

How many dollars in government-supported student grants/loans, etc. (including veteran benefits) are going to various types of postsecondary education institutions?

What are the actual education costs for students at various postsecondary education levels, and in various types of institutions?

What has been the inflationary effect of institutional entitlement versus student entitlement?

Typical Tables

Institutional income, by source of revenue, by type of institution, by type of control, by type of income, by source of income, by year.

Current expenditures for financial aid, by type of control, by sector, by type of institution, by source of revenue, by State, by year.

Distribution of average student expenses, by type of expense, by sex, by civil rights racial/ethnic category.

Percentage changes in average income per institution, by source of revenue, by type of control, by type of institution, by year.

Average per-student cost and average per-student financial aid, by type of control, by type of institution, by student level, by year. (Also, average per-student financial aid as a percent of average per-student cost by year).

Annual rate of change in per-student cost, by sector, by type of control, by year, as compared to average annual rate of change in per capita income, by year.

Amount of income (student and institutional), by source of revenue, by type of income, by type of institution, by year. (Also by various student characteristics — age, family income group, residency status, etc.)

Rates of inflation for the economy at large, versus rate of inflation for postsecondary education.

Analytical Subissues:

What is the projected impact in terms of costs, growth, survival, and enrollment of targeted groups associated with continuing current policies on the institutional-versus-individual entitlement mix?

What is the projected impact of alternative changes in that mix?

Issue 1.4 What policies should be adhered to in distributing public monies between collegiate and paracollegiate programs, and in what amounts should these monies be distributed?

Status Subissues:

What career programs are offered in both collegiate and paracollegiate institutions?

What are the comparative costs per student for comparable programs in collegiate and paracollegiate institutions?

What is the total and available student capacity for comparable career programs in collegiate and paracollegiate institutions?

Analytical Subissues:

What is the projected impact — enrollment, costs, growth, institutional survival — of continuing current policies on the collegiate and paracollegiate sectors?

What is the projected impact of alternative mixes of types of institutions?

Typical Tables

Number of programs and institutions, by sector, by type of control, by type of institution, by program, by program type, by year.

Annual average cost per student, enrollment and capacity in stations, by student level, by type of control, by sector, by type of institution, by program, by year.

Amount of income (institutional), by sector, by type of control, by type of institution, by type of income, by year.

Issue 1.5 What devices of repayment can be used to shift the cost of postsecondary education to the consumer?

Status Subissues:

What proportion (and how many dollars) of postsecondary education revenues come from various sources (e.g., paid-up versus deferred payment plans)?

What is the current default rate on guaranteed student loans?

What is the average "cash-flow" deficit in various private and proprietary institutions?

What is the expected marginal utility (in expected lifetime earnings) for various types of postsecondary education?

Typical Tables

Distribution of institutional income, by type of control, by type of institution, by source of revenue, by type of support (institutional, student, and total), by year.

Distribution (amount and percent) of financial aid, by type of control, by type of institution, by source of revenue (and program), by type of repayment plan (default, deferred, paid, etc.), by year.

Revenues paid by students to institution, by type of payment plan, by type of institution, by year.

Number of institutions with an aggregate net current expense operating deficit and the amount of the deficit, by year, by type of control, by type of institution.

For same group of institutions, total amount of income, and the annual absolute and percentage change in revenue balances.

Number of institutions reporting deficits, by operating deficit range as a percentage of total current expenditures, by type of control, by type of institution, by year.

Distribution of operations and maintenance expenditures for plant as a percentage of total net plant assets, by type of control, by year.

Average cost to student -- present value of foregone income, by sector, by type of institution, by type of educational attainment, by occupation, by year.

Proportion of expected student loan repayments, by type of institution, by loan programs, by year.

Analytical Subissues:

Given current trends, what are the projected costs for each dollar of loan-versus-dollar, of grant-versus-dollar, of work stipend, for the major Federal and State aid programs?

What is the projected availability of loan monies, for various target populations, as a function of alternative guarantees, government subsidies, and typical loan sizes?

What are the projected impacts on marginal utility of postsecondary education as a function of changes in the economy, costs of education, and alternative admissions policies?

Issue 1.6 What cost-controlling techniques and technologies can be introduced into postsecondary education?

Status Subissues:	Typical Tables
What are the major accounting schemes used in postsecondary education institutions?	List of tables of accounts, and crosswalks among tables of accounts.
Which types of institutions, in which States, are subject to public regulation of expenditures?	Distribution of institutions, by type of accounts used, by type of institution, by State.
What are the comparative costs of post-secondary instruction by size of institution?	Distribution of institutions and revenues, by type of control, by type of institution, by source of revenue, by State, by year.
What is the range of "teaching load" levels for instructors in various types of postsecondary education institutions?	Distribution of current expenditures (as absolute amount and as percent of total), by type of control, by type of institution, by function of expenditure, by size of institution, by year.
What is the ratio of nonteaching expenses to instructional costs for alternative forms of postsecondary education?	Average annual expenditure per student, by type of control, by type of institution, by institutional size, by year.
	Same as above, but further categorized by function of expenditure.
	Number of staff, by year, by rank, by experience, by type of control, by type of institution (for full- and part-time personnel).
	Number of staff, total salary outlay, and mean salary, by year, by rank, by type of control, by type of institution.
	Average teaching load, per week (number of courses and credit hours/weeks), by type of control, by type of institution, by year, for instructional personnel only).
	Proportion of expenditures made for non-instructional expenses (as percent of instructional and total expenditures), by type of control, by type of institution, by year.

Analytical Subissues:

What are the projected cost impacts of alternative teaching load ratios in various institution types?

What are the projected net savings associated with alternative patterns of public regulation of expenditure?

What are the projected net savings associated with alternative patterns of re-organization, consolidation, interinstitutional cooperation, and other economies of scale?

Issue 1.7 What are the cost consequences of collective bargaining and affirmative action?

Status Subissues:

What is the status of collective bargaining in various forms of postsecondary institutions, by State, and by type of employee?

What are the relative costs for comparable services as a result of collective bargaining differences?

How many institutions are creating new positions and how many, by type and region?

Analytical Subissues:

What is the projected impact in costs and institutional survival of continuing trends in collective bargaining?

What are the projected changes in staff - student ratios associated with achieving alternative affirmative action employment objectives?

Typical Tables

Number of institutions, by type of institution, by type of collective-bargaining agreement, by State.

Number of employees and percent of total employees, by type of staff, by membership in bargaining unit, by type of institution, by State, by year (also by various employee characteristics, such as age, sex, civil rights/ethnic category, educational attainment, and rank).

Median salary, by type of assignment, by membership in bargaining unit, by type of institution, by State.

Median value of benefits, by type of assignment, by membership in bargaining unit, by type of institution, by State (also, by years of experience and type of benefit).

Faculty contact hours (total and average), by type of assignment, by membership in bargaining unit, by course level, by type of institution, by State.

Mean employee contribution to collective-bargaining unit, by State.

Issue 1.8 What are the cost consequences of teacher tenure?

Status Subissues:

What proportion of teachers are tenured in various types of institutions?

What is the relative cost for tenured and nontenured staff?

What is the unemployment rate for academic professionals by area of specialization?

What proportion of the paid postsecondary teaching staff is not teaching during a typical semester (by virtue of paid leave or other duties)?

Typical Tables

Number of employees, and as percent of total, by rank, by tenure status, by type of control, by type of institution, by year.

(Same as above, including by size of institution.)

Total outlay for salaries and fringe benefits and average salary and fringe benefits, by type of staff, by rank, by tenure status, by type of control, by type of institution, by year.

Average salaries by same as above, including length of contract.

Unemployment rate (numbers and percent), by rank, by tenure status, by area of specialization, by year; also, by highest degree/certificate/diploma earned (i.e., highest educational attainment).

Number and proportion of institution staff, by leave status, by type of institution, by year.

Analytical Subissues:

What is the projected impact of continuing current patterns of tenure on age of instructors, salary, minority employment, and unemployment for novice instructors?

What is the impact of alternative patterns of tenure?

2. Barriers to Postsecondary Education

It is generally presumed in discussions of postsecondary education that there are always substantial numbers of persons who desire postsecondary education, and who would benefit from it, but who are impeded from participation by certain obstacles. Traditionally, lack of money for tuition has been the principal barrier for most aspirants, but increasingly this particular impediment has been reduced by the expansion of low-cost public postsecondary education, and more liberal loan and grant programs. Increasingly, other barriers have been thought of as having an impact as great as, or greater than, cost. These factors include social discrimination, lack of accessibility, and the possibility that certain groups are systematically underprepared by the secondary school system.

In the current era, many advocates believe that no deficiency, either of funds or of ability, should deter a student with the potential to benefit from participating and that, in addition to financial aid, we must evolve regulations and service mechanisms that will bring a fuller range of citizens into postsecondary education.

The issue questions in this area are concerned with the economic and social barriers to participation and with the mechanisms available to help remove them.

Issue 2.1 What are the financial barriers for various groups that prevent them from participating in certain postsecondary education institutions?

Status Subissues:	Typical Tables
What is the median family income for various minorities, by region?	Median family income, by civil rights racial/ethnic category, by region, by year.
Who enters postsecondary education?	(Same as above, by sex.)
What are the earnings from part-time employment for postsecondary education students, by group, by region?	Distribution of families by family income, by civil rights racial/ethnic category of head of household, by educational attainment.
What proportion of income is spent for postsecondary education by persons "over college age?"	Personal consumption expenditures, by objective of expenditures, by family income, by civil rights racial/ethnic category, by sex, by State, by year (also including age group).
What is the "opportunity cost" (in foregone earnings) for various groups, by region, of acquiring 2 or 4 years of postsecondary education?	Number and percentage distribution of college-age population (18-24) and population age 18 and over and enrollment, by family income, by civil rights racial/ethnic category, by region, by year.
How do students pay for their education?	Same as above, by various other characteristics, such as age, marital status, sex, civil rights racial/ethnic category, socioeconomic status, ability measures, military service status, etc.
	Enrollment distribution, by student participation status, and by student registration status, combined with some of the above student characteristics.
	Distribution of financial aid (number and amount), population eligible, and enrollment receiving financial aid, by source of income, by family income, by State, by year.
	Same as above, by civil rights racial/ethnic category, by sex.
	Average student income, by sector, by type of control, by type of institution, by type of income, by year.
	Same as above, incorporating student participation status, student registration status, student level.
	Average expenses and average cost to student; present value of foregone income (because student was enrolled in a post-secondary education program), by occupation, by State, by year.
	Also, average expenses, by type of expense, by type of institution, by type of control, by student level.

Analytical Subissues:

What are the projected impacts of current trends in the economy on ability to pay for postsecondary education, for various target groups?

What is the projected impact of the current economic trend of student part-time earnings, for various groups of students?

Issue 2.2 What are the access and location barriers for some groups that prevent them from participating?

Status Subissues:

What are the numbers of students in postsecondary education institutions, by State, by type of institution?

What are the tuition costs, by State, by type of institution?

What is the per capita State commitment to student aid, by State, by type of aid?

What is the median distance (in miles) to a postsecondary education institution, by State, by type of institution, by type of community?

Typical Tables

Distribution of population within community by distance (in miles) from a postsecondary education institution (free-access), by type of community, by year (also by civil rights racial/ethnic category).

Distribution of enrollment, by type of institution, by type of community, by residency status, by housing status, by year.

Enrollment distribution, by type of institution, by residency status, by various student characteristics (e.g. civil rights racial/ethnic category, sex, income group, socioeconomic status, marital status, etc.), by year.

Average expenses -- student (tuition and fees), by type of institution, by residency status, by State, by year.

Per capita State allocation, by type of institution, by type of income, by source of income (State sources), by year.

Distribution of postsecondary education institutions, by type of institution, by type of community within commuting distance of institution, by State, by year.

Analytical Subissues:

What is the projected impact of currently forecasted changes in postsecondary education facilities (new station construction and attrition of facilities and institutions) upon the geographical accessibility of postsecondary education programs?

What is the projected impact of projected changes in population migration (interstate, type of community, etc.) upon geographical accessibility of postsecondary education programs?

Issue 2.3 What are the social and discrimination barriers for certain groups that stand in the way of their participation?

Status Subissues:

What is the representation of women and minority students in postsecondary education, by State and type of institution?

What proportion of minority postsecondary education students attend ethnically dominated institutions (such as "Negro Colleges")?

What is the allocation of financial aid among the minorities and special groups?

What are the educational aspirations and expectations (by certificate or degree type) of the minorities and groups?

Typical Tables

Distribution of college-age population, by civil rights racial/ethnic category, by sex, by State, by year.

Distribution of enrollment, by type of control, by type of institution, by civil rights racial/ethnic category, by State, by year.

Distribution of enrollment, by type of control, by type of institution, by special characteristics, by State, by year.

Enrollment ratio for college-age persons (age 18-24), by civil rights racial/ethnic category, by State, by year.

Percentage distribution of college-age population for the highest educational attainment, by civil rights racial/ethnic category, by sex, (by State), by year.

Number of institutions attended predominantly by students in civil rights racial/ethnic category, and enrollment by students in a civil rights racial/ethnic category, by type of institution, by State, by year.

Enrollment (at postsecondary education institutions above) as a percent of total minority enrollment and of total enrollment, by civil rights racial/ethnic category, by special characteristics, by State, by year.

Distribution of college-age population (18-24) and postsecondary education enrollment, by student level, by family income, by civil rights racial/ethnic category, by special characteristics, by State, by year.

Proportion of income (student), by source of income, by family income, by civil rights racial/ethnic category, by State, by year; also in terms of funds that are refundable (loans) and nonrefundable.

Percentage distribution of income (financial aid), by source of income (specify program name), by family income, by type of institution, by type of control, by civil rights racial/ethnic category, by sex, by State, by year.

Average loan (amount), by civil rights racial/ethnic category, by source of income, by family income, by State, by year.

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OC 53

Issue 2.3 What are the social and discrimination barriers for certain groups that stand in the way of their participation?--(Continued)

Status Subissues:

(Listed on first page of Issue 2.3)

Typical Tables

Distribution of enrollment, by civil rights racial/ethnic category, by type of control, by type of institution, by type of aspiration (educational and vocational), by year. Same table, including by sex and by student level.

Distribution of enrollment, by civil rights racial/ethnic category, by type of control, by type of institution, by student level, by degree/certificate/diploma (i.e., highest educational attainment to which student aspires), by year.

Number of graduates, by type of control, by type of institution, by civil rights racial/ethnic category, by degree/diploma/certificate, by State, by year.

Same as above, by sex and by occupation.

Number of dropouts, by type of institution, by civil rights racial/ethnic category, by termination status, by State, by year.

Same as above, by student level and sex.

Analytical Subissues:

What is the projected long-range representation of women and minority groups in postsecondary education enrollments, given current trends and policies?

What is the projected growth and survival rate for ethnically-dominated institutions? For non-coeducational institutions?

What are the probable changes, given current trends, in the educational and career aspirations of women and minority groups?

Issue 2.4 What are the ability and preparation barriers for various groups that reduce their chances to participate?

Status Subissues:

What proportion of the postsecondary-age population (in various groups) do not have a high school diploma?

What are the SAT and CEEB scores for the various groups, particularly in the reading/verbal areas?

In "open admission" environments, what are the first- and second-year dropout rates for the various groups?

Typical Tables

Distribution of population by age (college age and over), by highest educational attainment, by State, by year. Also by various student characteristics (e.g., sex, family income, father's and mother's occupations), and by highest degree/certificate/diploma earned.

Enrollment distribution, by type of institution, by civil rights racial/ethnic category, by socio-economic status, by special programs (e.g., Talent Search, Upward Bound, Special Services for the Disadvantaged), by State, by year.

Enrollment distribution, by type of institution, by student enrollment status, by admission basis, by civil rights racial/ethnic category, by State, by year.

Distribution of enrollment, by student enrollment status, by type of institution, by test score group, by test type (e.g., aptitude, achievement), by subject area, by civil rights racial/ethnic category, by State, by year.

Distribution of enrollment, by student enrollment status, by type of institution, by civil rights racial/ethnic category, by type of student's high school program, by State, by year.

(Same as above, with addition of: class rank, implied by recommendation letters to postsecondary education institutions.)

Distribution of enrollment, by tests that measure knowledge and skills development, social development, aspirations, etc., by type of institution, by student level and participation status, by year.

Average number of awards, honors, prizes received by first-time postsecondary education students or graduating students for academic performance.

Dropout rate, by type of institution, by student level, by civil rights racial/ethnic category, by sex, by socio-economic status, by termination status, by State, by year (also, by student participation status).

Analytical Subissues:

What are the projected numbers and rates of high-school completion for various groups of secondary education students, in various regions of the country?

Given current trends, what proportion of students admitted through open admissions opportunities can be expected to complete various degree or certificate programs?

Issue 2.5 What forms of special assistance should be provided for high risk students during postsecondary education?

Status Subissues:

What forms of assistance are currently offered to high risk students, by type of institution and State (categories of service)?

What are the costs (and sources of funding) for these high risk services, by service type per capita?

What are the retention rates for high risk students, as a function of supplemental services (type, amount, and duration)?

Typical Tables

Enrollment distribution, by type of institution, by admission basis, by civil rights racial/ethnic category, by State, by year.

Distribution of enrollment, by student level, by student enrollment status, by type of institution, by test score group, by test type (aptitude, achievement, etc.), by subject area, by civil rights racial/ethnic category, by State, by year.

Dropout rates, by type of institution, by student level, by civil rights racial/ethnic category, by sex, by termination status, by State, by year.

Expenditures per student, by type of institution, by civil rights racial/ethnic category, by type of disadvantagement (includes academically disadvantaged), by source of revenue, by State, by year.

Proportion of enrollment in remedial courses, by sector, by type of institution, by student-participation status, by State, by year.

Proportion of remedial course enrollment, by sex, by civil rights racial/ethnic category, by student-participation status, by State, by year.

Proportion of institutions requiring remedial courses, by sector, by type of institution, by student-participation status, by State, by year.

Proportion of institutions, by sector, by type of institution, with special student services, such as psychological counseling, social counseling, tutoring, etc., by State, by year.

Same as above, except the proportion of full-time enrollment in each of the special student services provided.

Dropout rates for various high risk student groups,* by sector, by type of institution, by type of special services (remedial or developmental courses, counseling, tutoring, etc.), and duration of service, by year.

*Based on achievement or ability test scores or performance in elementary/secondary or postsecondary school, socioeconomic status, physical handicaps, criminal record, etc.

Analytical Subissues:

What is the relative cost-effectiveness of alternative supplemental services to high risk students?

What are the projected costs and returns associated with full implementation of such services?

Issue 2.6 What forms of regulations, if any, should be used to influence the proportion of representation of various groups in student bodies?

Status Subissues:

What is the representation of women, handicapped, and minority students in postsecondary education, by State, and by type of institution?

What proportion of minority postsecondary education students attend ethnically-dominated institutions (such as "Negro Colleges")?

What is the allocation of financial aid among the minorities and special groups?

What are the educational aspirations and expectations (by certificate or degree type) of the minorities and groups?

Typical Tables

Distribution of college-age population, by civil rights racial/ethnic category, by sex, by handicap, by State, by year.*

Distribution of enrollment, by type of control, by type of institution, by sex, by State, by year.

Distribution of enrollment, by type of control, by type of institution, by special characteristics, by State, by year.

Percent of persons age 18-24 enrolled in post-secondary education, by civil rights racial/ ethnic category, by State, by year.

Percent distribution for the highest educational attainment, by civil rights racial/ethnic category, by sex, by handicap, by State, by year.

Number of institutions attended predominantly by students of a civil rights racial/ethnic category, and enrollment, by civil rights racial/ethnic category, by type of institution, by State, by year.

Distribution of enrollment, by type of control, by type of institution, by civil rights racial/ ethnic category, by State, by year. Also proportion of enrollment, by civil rights racial/ ethnic category.

Distribution of college-age population (18-24) and postsecondary education enrollment, by student level, by family income group, by civil rights racial/ethnic category, by type of disadvantagement, by State, by year.

Proportion of students' income, by income source, by family income group, by civil rights racial/ethnic category, by State, by year; also, in terms of funds that are refundable (loans) and nonrefundable.

Percent distribution of income, by source of income, by family income group, by type of institution, by type of control, by civil rights racial/ethnic category, by sex, by handicap, by State, by year.

Average amount borrowed, by civil rights racial/ethnic category, by source of income, by family income group, by State, by year.

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*Indicates size of both enrolled and non-enrolled group. Of the latter group, those with some postsecondary education and those without any postsecondary education are described.

Issue 2.6 What forms of regulations, if any, should be used to manipulate the proportion of representation of various groups in student bodies?--(Continued)

Status Subissues:

(Listed on first page of Issue 2.6)

Analytical Subissues:

What is the projected impact of current civil rights regulations and guidelines on future enrollment of women, handicapped, and minorities?

What is the expected impact in terms of aid distribution?

How will these programs affect the survival of ethnically-dominated and non-coeducational institutions?

Typical Tables

Distribution of enrollment by civil rights racial/ethnic category, by type of control, by type of institution, by type of aspiration (educational and vocational), by year.

Distribution of enrollment by civil rights racial/ethnic category, by type of control, by type of institution, by student level, by type of degree/certificate (or highest educational attainment to which student aspires), by year.

Number of graduates, by type of control, by type of institution, by civil rights racial/ethnic category, by type of degree or certificate, by State, by year.

Same as above, by handicap.

Same as above, by sex, and including occupation.

Number of dropouts, by type of institution, by civil rights racial/ethnic category, by year of withdrawal, by withdrawal reason, by State, by sex, by year.

3. Postsecondary Education vis-à-vis Manpower Needs

In the middle 1960's, student leaders complained that the universities were merely preparing them for places in business and industry; today they complain about the lack of career utility in institutional college programs.

The questions in this area are concerned with the thorny problem of the relationship between the use of postsecondary education resources and the impact of these resources on society's manpower needs. The issues raised are philosophically complicated (as in the case of the continuing concern with the nonmaterial benefits of higher education) as well as technically complicated (as in the problem of what to do with learned instructors in programs that no longer respond to manpower needs). Further, as a result of changes in both our education and our economy, traditional notions of the economic utility of college education are being challenged.

Issue 3.1 What is the projected output of postsecondary education programs, versus the manpower needs of correlated occupations?

Status Subissues:

What is the current and projected output (in number of graduates) of the post-secondary education sector, by occupation, and by region of country?

What is the current and projected need for skilled manpower of various types, by region?

What proportion of the new entries in the major occupation areas are products of postsecondary education, by type of institution?

Typical Tables

Listing of occupational categories, with corresponding educational requirements for employment in these occupations.

Crosswalk between student programs and occupations.

Number of graduates (current and projected), by sector, by type of institution, by type of student program, by occupation, by geographical region, by year.

Same as above, by student characteristics, such as sex, handicap, age, civil rights racial/ethnic category, degree/certificate/diploma earned, marital status, etc.

Number of graduates, by sector, by type of institution, by occupation, by employment status, by geographical region, by year.

Enrollment, by sector, by type of institution, by type of student program, by major field, by student level (and/or degree/certificate/diploma expected), by geographical region, by year.

Current and projected employment (numbers and as proportion of total) and average annual rate of change, by occupation, by geographical region, by year.

Same as above, by characteristics such as age, sex, handicap, marital status, educational attainment, civil rights racial/ethnic category.

Current and projected manpower requirements (e.g., excess of manpower demand over manpower supply or comparison of manpower demand and manpower supply), by occupation, by geographical region, by year.

Current and projected number of graduates, by sector, by type of institution, by occupation, by geographical region, by year.

Current and projected number of graduates, by employment status (employed and unemployed), by type of institution, by occupation (for which trained and for which not trained), by geographical region, by year.

Analytical Subissues:

What is the impact of employment success after completion or graduation on demand for postsecondary education programs associated with alternative degrees?

Given current projected educational output and manpower need, what proportion of the work force can expect to be over-qualified, underemployed, etc.?

Issue 3.2 What standards should govern public policy regarding support of programs for which no manpower needs exist?

Status Subissues:

What are the current and projected relative public sector investments (in institutional and financial aid), by occupation area?

What is the payroll of tenured instructors and non-tenured instructors in occupation areas where manpower needs are very small?

What are the manpower needs in other countries in occupations where there is currently an oversupply in the American labor market?

What proportion of postsecondary education graduates choose a career other than the one for which they were prepared?

Typical Tables

Current and projected distribution of labor force, by employment status, by occupation, by geographical region, by year.

Current and projected expenditures per student, by occupation, by geographical area, by year.

Same as above, by source of revenue and by program.

Current and projected distribution of income (financial aid in form of student aid), by source of revenue, by occupation, by State, by year.

Distribution of institutional expenditures for instructional staff, by type of control, by type of institution, by rank, by tenure status, by field of specialty (related to DOL occupation groups), by State, by year.

Distribution of labor force (numbers and percent) by occupation, by sex, by year.

Distribution of labor force by occupation, by race/ethnic group, by country or origin.

Distribution of labor force, by employment status, by occupation, by selected countries, by year.

Number of graduates not employed in field for which trained, by degree/certificate/diploma earned, by occupation (in which employed), by major (field of study), by geographical region, by year.

Analytical Subissues:

What is the feasibility of retraining or reassigning resources currently associated with low-need occupation areas to high-need occupation areas (especially tenured staff)?

What proportion of American postsecondary education graduates can be expected in the next several years to seek employment in other nations?

Issue 3.3 What is the current marginal utility of the various forms of postsecondary education for the student? That is, what are the material returns associated with various postsecondary expenditures?

Status Subissues:

What are the expected additional earnings versus expected additional costs (relative marginal utility) of various postsecondary education alternatives (e.g., technical school, 2-year community college, 4-year university, etc.)?

Are there significant differences in utility for the student in comparable programs that are publicly or privately sponsored?

What is the public benefit-cost ratio (expressed in tax benefits) associated with alternative forms of postsecondary education? That is, what increases in tax revenue are attributable to public investments in postsecondary education?

Analytical Subissues:

What are the projected changes in the relative marginal utility to the student of comparable programs in diverse forms of postsecondary education institutions (public/private, collegiate/paracollegiate, etc.)?

Typical Tables

Current and projected mean annual income per student, by type of institution, by educational attainment, by occupation, by year.

Current and projected per-student cost, by type of institution, by student level, by educational attainment, by program, by year.

Current and projected annual mean income per student, by type of control, by type of institution, by program (field, occupation, etc.), by year.

Current and projected annual mean income per student, by type of control, by type of institution, by program, by occupation, by year.

Proportion of family income paid for postsecondary education (via local, State, and Federal taxes), by type of control, by type of institution, by State, by family income group, by race/ethnic group, by year.

Issue 3.4 What is the economic consequence of "open" or "loosened" admissions policies?

Status Subissues:

What is the relative cost per graduate in "open" versus "selective" institutions?

What is the relative employment and income experience of graduates of "open" versus "selective" institutions?

What proportion of students in post-secondary education attend "open" institutions?

Analytical Subissues:

Given current trends, what is the expected difference for cost/graduate in "open" versus "selective" programs?

Typical Tables

Distribution (number and percent of total) of enrollment and average cost per student, by type of control, by type of institution, by student characteristics, by admissions basis, by year.

Proportion that enrollment is to total, by student characteristics, by type of institution, by admissions basis, by year.

Employment status and mean income of post-secondary education graduates, by type of control, by type of institution, by type of admissions basis, by year.

Issue 3.5 What are the nonoccupational benefits of postsecondary education, and how may they be quantified?

Status Subissues:

What are the differential experiences of persons with various types and levels of postsecondary attainment regarding:

- . mental and physical health.
- . crime and victimization.
- . social/community leadership.

What proportion of postsecondary education students (by age and group) are not primarily motivated by income aspirations, but by such considerations as:

- . enrichment or entertainment.
- . social opportunity.
- . scholarly or scientific interests.

Typical Tables

Distribution of students, by State, by type of institution, by type of extracurricular activity, by year.

Full-time-equivalent nurses per student, by type of institution, by State, by year.

Physicianhours per student, by type of institution, by State, by year.

Number of cases of violence, by type of institution, by State, by age range, by year.*

Total number and percent of students for whom a specific recommendation has been made for psychological testing, by type of institution, by student level, by State, by ethnic group, by sex, by family income range, by year.

Number of persons who abuse the use of drugs or alcohol, by institution type, by educational attainment, by student level, by State, by ethnic group, by sex, by family income range, by year.

Number of students and graduates who cannot pass physical fitness tests, by type of institution, by age, by type of handicap, by State, by civil rights racial/ethnic category, by sex, by family income range.

Distribution of students, by type of institution, by age, by student type, by type of aspiration, by student level, by year.

*(Victimization, not only at school, but in the general community.)

Analytical Subissues:

What proportions of the revenues of various types of postsecondary education institutions are derived from noncareer-oriented consumers (current and projected)?

What is the projected demand, for various groups, for noncareer-related postsecondary education programs?

Aside from income, what are some important social indicators that vary as a function of educational attainment (e.g., health status, family stability, longevity, mobility, etc.)?

4. Improved Delivery Systems

This issue area interacts with the others. Its basic question is, how may the means and methods of postsecondary education be organized so as to:

a. Reduce the problems of cost and financing;

b. Eliminate or overcome barriers to student participation;

c. Address the problem of manpower; and

d. Make best use of existing staff and resources.

The questions are concerned with alternative forms of delivery, with the emphasis upon technology, patterns of time and residence, facility and site alternatives, employer-based programs, free programs, and specialized programs for target groups of participants.

Issue 4.1 What are the uses of communications technology, including the electronic computer, in providing postsecondary instruction?

Status Subissues:

What are the current uses and expenditures for communications technology in postsecondary instruction and administration for various program types?

What proportion of student time is managed, mediated, or supplemented with communications technology, in various types of postsecondary education programs?

Analytical Subissues:

What is the current and projected impact of instructional and administrative technology on costs, enrollment, and "throughput" of students?

What evidence exists of the impact of this technology on posteducational competencies of students?

Typical Tables

Expenditures, by type of institution, by type of communications technology, by program, by year.

Mean amount of student time spent using various types of communications technology, by type of institution, by program, by State, by year.

Issue 4.2 What alternative patterns of time and residence are available to postsecondary education students?

Status Subissues:

What are the existing patterns of time and residence for postsecondary education students, and how are those patterns distributed among program types and student types?

Analytical Subissues:

What is the projected impact on cost and enrollment of current trends in the use of alternative patterns of time and residence?

Typical Tables

Enrollment, by type of institution, by type of housing, by student program, by year.

Also, enrollment displayed by combinations of other dimensions, which include residency status, student participation status, student level, within commuting distance of institution, and special characteristics of students.

Issue 4.3 What facility and site alternatives are used by students in postsecondary education?

Status Subissues:

What is the current and projected distribution of type of facility in different postsecondary education institutions?

What proportion of postsecondary education student time is spent in the various facility/site configurations, for different student types?

Analytical Subissues:

What is the projected impact on costs, enrollments, and "throughput" of various facility/site alternatives?

Typical Tables

Square feet per student, by student participation status (full-time), by type of institution, by type of facility, by year.

Proportion of total institutional space per student, by student participation status, by type of institution, by year.

Average student time, by type of institution, by type of facility/space, by student participation status, by year.

Issue 4.4 What specialized programs have been developed for the handicapped/disabled, the non-English speaking, persons in outlying areas, and others with access problems?

Status Subissues:

What is the current expenditure for use of, and enrollment in, programs for special needs students?*

What proportion of the eligible special needs population are now served by such programs, in each of the client groups?

What are the current or emergent State laws, codes and regulations regarding access barriers?

Analytical Subissues:

Given current trends, what are the projected proportions of various special needs groups who will participate in programs devised for them?

What is the projected cost and enrollment impact of current special needs programs? Of expanded programs?

*Students who are either handicapped/disabled, educationally deficient (poor secondary/postsecondary educational performance), or high risk (e.g., drop-out), have social history of legal problems, etc.

Typical Tables

Enrollment and average expenditure per student, by State, by special (student) characteristics, by legislative program, by type of institution, by year. Also, by various student demographic characteristics, by number of participants, number of eligibles, and by proportion of participants to eligibles by same dimensions as above.

List of types of access (e.g., access open on basis of completing high school, age, grade point average, rank in secondary or postsecondary education institution, test, no requirement, or other, etc.).

Distribution of States, by type of access laws, by type of institution, by year.

Issue 4.5 What free and voluntary postsecondary education opportunities are available, and to whom?

Status Subissues:

What are the kinds of free or voluntary opportunities now existing, and how are they financed?

What is the current and projected demand for free and voluntary opportunities? That is, how many people wish to participate in "free universities," "alternative institutions," or other non-institutional forms of postsecondary education?

Typical Tables

List of free and voluntary types of postsecondary education opportunities (e.g., university-related, free university, community center-related, community action group related, religion affiliated).

List of the forms of financing schemes for free and voluntary programs (e.g., tuition and fees, contributed services, government grants).

Number of free and voluntary postsecondary educational opportunities, by State, by type of relationship or affiliation with conventional postsecondary educational institution, by year.

Same as above, with addition of: by forms of financing schemes.

Enrollment in free and voluntary postsecondary educational opportunities, by State, by type of relationship with postsecondary educational institution, by various student characteristics (e.g., age, sex, civil rights racial/ethnic category, family income, socioeconomic status, type of handicap), by year.

Analytical Subissues:

What is the projected impact on other postsecondary education enrollment of projected demand for free and voluntary opportunities?

Issue 4.6 What forms of competence testing are available to students?

Status Subissues:

What areas of skill, in what programs, are currently involved in competence testing?

What are the number and distribution of credits currently being awarded for various student types?

Typical Tables

List of subject and skill areas for which a person can take an examination for postsecondary education credit, accreditation, etc.

Distribution of skills and subjects in which a test can be taken for postsecondary education accreditation, etc., by State.

Distribution of number of persons who have been given postsecondary education credit, accreditation, etc., based on an examination, by State, by skill and subject area, by year.

Analytical Subissues:

What are the cost and enrollment impacts of current testing alternatives? What is the projected impact of current or expanded levels of test use?

What are the differential competencies, if any, of students who earn credits through testing versus those gaining credits from instruction?

What is the differential economic utility--to the student--of test-earned credits versus conventionally earned credits?

5. Staff Opportunities and Benefits*

Amid various economic crises and attempts to enhance the productivity or efficiency of postsecondary education, there are also numerous conflicting attempts to enhance the income, power, perquisites, and security of the various employees of postsecondary institutions -- most notably the instructional staff.

Questions in this area concern the economic and administrative consequences of collective bargaining, strikes, tenure (and tenure alternatives), and faculty participation in management.

Other important problems in this area concern female and minority representation in the staffs of postsecondary institutions, as well as a need to forecast the most needed postsecondary manpower over the next few years.

*While the questions raised in this section are too important to be omitted from any review of postsecondary education issues, the project staff believes that the information required to address these issues is not likely to figure prominently in a manual of student data. For this reason, the analysis of this problem area is confined generally to the list of issue questions that appears at the end of Chapter II. Some attention is given to the cost consequences of collective bargaining, affirmative action, and teacher tenure in issues 1.7 and 1.8, pp. 46 and 47.

IV. AN ILLUSTRATIVE DATA BASE FOR A POSTSECONDARY EDUCATION INSTITUTION

Interaction Between Student Data and Other Data

For some users and uses, data exclusively about students are sufficient. For example, some methods for predicting future enrollments depend only upon past enrollment data. But most decisions require data about several aspects of the educational process -- not only about students, but also finances, facilities, staff, and curriculum. Two types of data may have to be combined by computation to produce specific statistics or measures, or, they may be used as separate inputs at the time of analysis. For instance, to study and make decisions about which program should be enhanced or cut back, data are needed regarding cost per student in each program. Therefore, a formal link is needed between financial expenditure data by program and enrollment data by program. In contrast, when a guidance counselor uses information about the student and about program and course availability, these two sets of data are not computationally combined, but are used together by the student and his counselor.

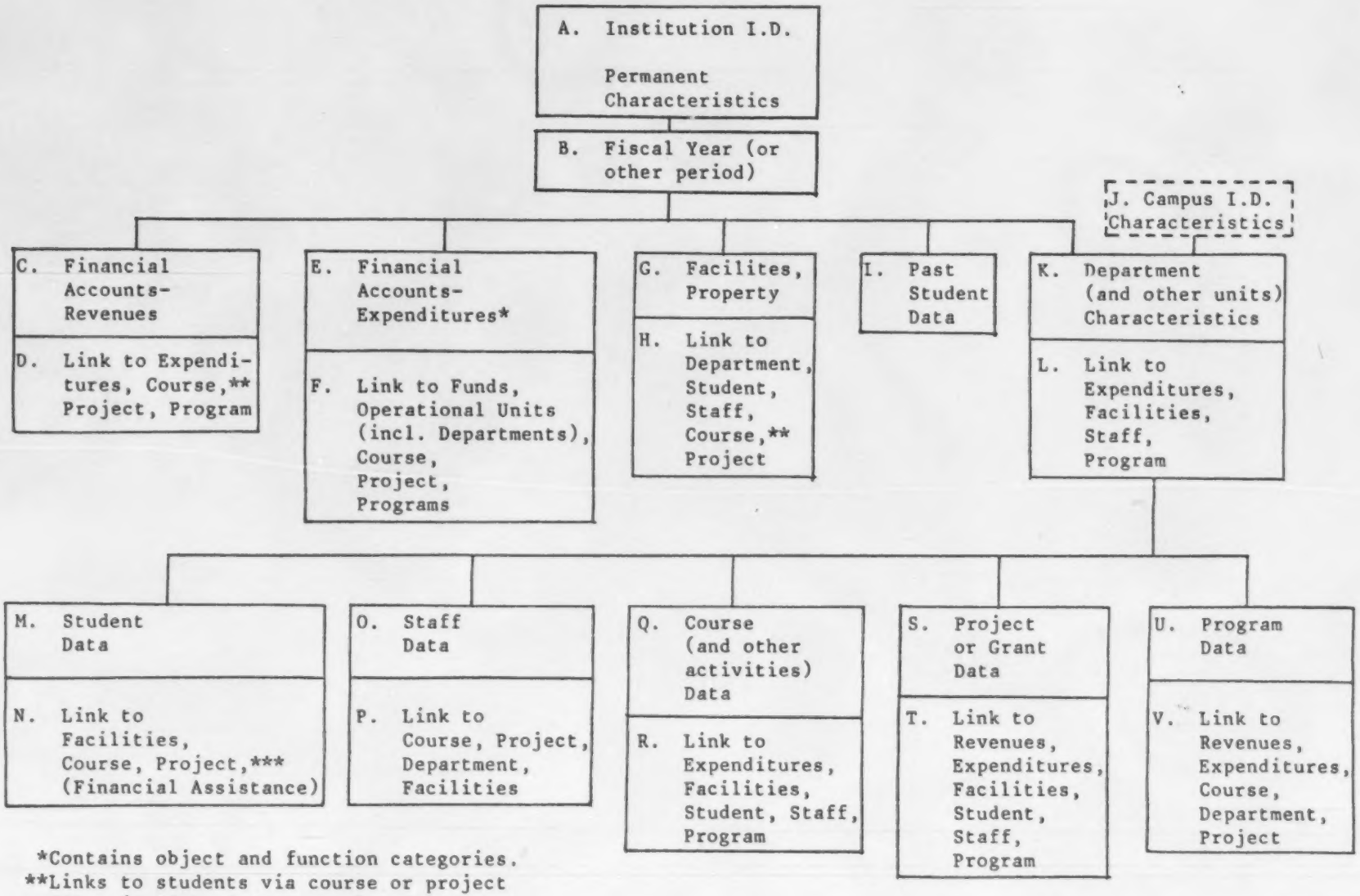
Thus, to identify terms and definitions relevant to students in postsecondary education, it is necessary (1) to review the use of student terms in combination with data from other files, and (2) to decide how data files will be linked. Many of these combined uses are implicit in the issues discussed in chapters II and III; the "typical tables" listed in chapter III contain combined terms, and the glossaries, data element dictionaries, and model descriptions studied yield student aspects of combined terms.

The need to combine terms influences the design of data systems. To produce combined statistics, data from two or more files are brought together for computation and reporting. In computer-based systems, proper data-base design is needed to automatically bring together the required data.

A data base is a collection of files, integrated so that redundancy (duplication of data) is minimized. Various files are connected by links or indices. A link, in computer terms, is a pointer that relates a given record in one file to a record in another file. To ensure production of the required combined statistics, a properly designed data base must be created, within which the associated software must allow the desired interconnections between the various data files.

The relationship between data-base design and the combination of data from various files can be illustrated by considering a specific data base. Figure IVa (p. 73) shows a typical institutional data base. Each of the lettered boxes represents a file. Linkages in both directions among the files are shown. The nature of the contents of each of these files is discussed below:

Figure IVa. Typical Institutional Data Base


A. Institution I.D.
Permanent Characteristics
B. Fiscal Year (or other period)
J. Campus I.D. Characteristics
C. Financial Accounts-Revenues
D. Link to Expenditures, Course,** Project, Program
E. Financial Accounts-Expenditures*
F. Link to Funds, Operational Units (incl. Departments), Course, Project, Programs
G. Facilites, Property
H. Link to Department, Student, Staff, Course,** Project
I. Past Student Data
K. Department (and other units) Characteristics
L. Link to Expenditures, Facilities, Staff, Program
M. Student Data
N. Link to Facilities, Course, Project,*** (Financial Assistance)
O. Staff Data
P. Link to Course, Project, Department, Facilities
Q. Course (and other activities) Data
R. Link to Expenditures, Facilities, Student, Staff, Program
S. Project or Grant Data
T. Link to Revenues, Expenditures, Facilities, Student, Staff, Program
U. Program Data
V. Link to Revenues, Expenditures, Course, Department, Project

*Contains object and function categories.
**Links to students via course or project files (2 links in sequence); some data-base systems would allow direct linkages.
***Link to program, revenues, etc., via course, project, or department files.

A. Institutional Identification

This file contains data about the permanent characteristics of the institutions, such as name, location(s), ownership, type of control, and general organizational characteristics.

B. Fiscal Year

This section of the data base contains all of the data relevant to a given fiscal year or other specified period of time, such as a given semester, a term, or an academic year.

Institutional data that are subject to change over time are broadly divided into two parts: (1) data applicable to the entire institution, and (2) data associated with the departments or other organizational units within the institution.

The institutionwide data are described by the following files.

C. Financial Accounts -- Revenues

This file is analogous to file E, but contains a record for each revenue source, including funds from State, Federal, and local sources. The amount of money expected from each source, the amount collected to date, and other information are retained.

E. Financial Accounts -- Expenditures

This section has a record for every institutional financial account containing budget data and expenditures to date.

G. Facilities, Property

This file contains a record for every facility in the institu-

tion, including instructional facilities, residences and special centers such as student union, libraries, and laboratories. The records contain data about the type of facility (purpose, function), its capacity, its date of construction (or reconditioning), its condition, and so on.

I. Past Student Data

This file contains records of students who have been enrolled (on any basis) in the institution, but who are no longer enrolled. In some instances, a limit is placed on the number of years a person's record is maintained in the file. Similarly, a limitation may be placed on the types and amount of information remaining in the file over time.

The departmental (or unit) section of the data base contains all of the information for each major organizational unit. Figure IVa shows a data base in which the file key is the organizational unit identifier; the program is subordinate to the organizational unit. Thus, one organization may include the activities of several programs or parts of programs. Section K, below, describes the files that can be associated with a unit.

K. Department (Unit) Characteristics

This header file contains a record for every department, laboratory (provided that it is a separate administrative unit) and institute, and for every administrative organizational entity. Data are recorded about such characteristics as type of entity, name of unit head (a link to the staff file), or location (in multi-campus situations).

The major files described below may be maintained for each department or major administrative unit.

M. Student Identifying Data

Data are filed about the identification of every student active within each department (including, if necessary, a "pseudo" department category for students not attached to a formal department).

A link may be created in each student's record to his or her residence in the facilities file, making it possible to determine which students are living in which institutionally operated residences or in other specified residences. Data on student financial assistance may be available through linkage with the institution's expenditure files.

O. Staff Data

This file contains a record for every staff member associated with the department (staff with dual appointments appear in both departmental staff files) plus all the data normally recorded about a staff member, such as civil rights category, age, sex, current assignment, current title, years of experience, salary, hours assigned to instruction, or highest degree.

Q. Course Data

A record of every section of every course, and every other formal education activity undertaken by the institution is contained in this file. The record includes: an indication of subject matter, the time characteristics (duration, number of sessions, length of

sessions), nature of contact between the student and the teacher, overall hours required by the student and by the staff, student-staff ratios, type of credit given for taking the course, and so forth. In addition, each record contains the following links: identification of the students participating in the course (with an indication of the nature of the participation, credit, noncredit, etc.), of the staff assigned, of the facilities used and time schedule, and of the account to which expenditures related to this course should be charged. These links serve as pointers to the facilities, expenditures, student, staff, and program files.

This linkage permits production of reports containing data from several files -- for example, the listing of students taking first-year courses, the listing of staff members participating in laboratory courses, the accumulation of dollars for all courses given by staff of professorial rank, and an estimate of facility usage required for social science courses. More complex linkages are possible, such as determining, through links in the course file, the students taught by a particular staff member during a specified term.

S. Project or Grant Data

Data on activities funded from outside sources are separated from courses and other internal activity. The former activities, usually called projects or grants, include those for special education purposes, for research, or for community development. The project grants file contains links to other files so that detailed data can be recorded and reported. Each project record contains links that

show all participating students, staff assigned to the project, facilities used, revenue sources and amount, and expenditure accounts to be charged. With these linkages, it is possible to prepare reports about all students participating in a given project, to determine the characteristics of students and other participants in a given project, and so on.

U. Program Data

This file contains a record for every program, such as those defined in the NCHEMS program classification structure (Technical Report 101, National Center for Higher Education Management Systems, 1976, Second Edition). For each program there is a record containing the name and nature of the program and also a series of links to participating courses, projects, and revenue sources. The program file is organized so as to reflect the hierarchical structure of the program classification scheme. This plan permits the proper accumulation of data by sub-subprogram, subprogram, and full program.

The program data also permit inclusion of percentage allocations, so that, for example, a given project or course may be allocated to two or more programs.

Through the linkages it is possible to accumulate combined program data -- for example, expenditures for a given program or enrollment in a program. Program enrollment is computed by using the links from the program to the course and project files, and then those from the course and project files, with appropriate percentages and screens, to the student files.

V. PRELIMINARY OUTLINE FOR THE HANDBOOK OF TERMS AND DEFINITIONS ABOUT STUDENTS IN POSTSECONDARY EDUCATION 1/

The plan of work for the total project (see Foreword) required that the contractor present in this report a proposed outline for the Handbook of Terms and Definitions about Students in Postsecondary Education. As outlined in the proposed 15-page chapter V, prepared by the contractor in 1975, the proposed contents of this handbook were modeled after Student/Pupil Accounting 2/ and based upon what the contractor's staff considered to be a logical plan for a handbook of this type.

The contractor proposed beginning the handbook with a chapter about the classification rationale according to which the terms are arranged, followed by a chapter that would list all the terms, another chapter defining these terms, a glossary of related terms, and, finally, some supportive chapters that would include materials on safeguards for confidentiality and privacy, and on uses of the terms and definitions.

The handbook subsequently was published as Postsecondary Student Terminology: A Handbook of Terms and Definitions for Describing Students in Postsecondary Education (Washington: U.S. Government Printing Office,

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1/ NOTE: This two-page overview prepared in 1979 replaces the 15-page chapter V prepared by the contractor in 1975. The contractor's proposed outline for the handbook seemed generally irrelevant because of the subsequent completion of the terminology handbook itself.

2/ John F. Putnam, Student/Pupil Accounting: Standard Terminology and Guide for Managing Student Data in Elementary and Secondary Schools, Community/Junior Colleges, and Adult Education. Washington: U.S. Government Printing Office, 1974. U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, State Educational Records and Reports Series: Handbook V, Revised, Bulletin NCES 76-329.

1980. U.S. Department of Education, National Center for Education Statistics, Education Records and Reports Series: Handbook XII, Bulletin NCES 79-409). In the course of its development through 6 drafts reflecting the input of literally hundreds of persons, this handbook evolved into a publication containing 3 chapters: Chapter 1, Introduction; Chapter 2, Student Information Items: Definitions of Data Elements and Qualifiers; and Chapter 3, Data Management and the Confidentiality of Student Data. Fourteen appendixes and an index complete the handbook.

The student information items of chapter 2 are grouped into the following major categories:

1. Demographic and Biographical Characteristics

    --Personal identification and characteristics
    --Residence
    --Educational/career aspirations
    --Financial information

2. Student's Educational Experience

    --Institutional identification
    --Admissions
    --Financing student's postsecondary education
    --Registration
    --Participation/performance
    --Termination

3. Student's Employment Experience

    --Employment experience
    --U.S. military service experience

APPENDIXES

Appendix A

POSTSECONDARY EDUCATION INSTITUTION: DEFINITION ENDORSED BY FICE

A definition of an institution of postsecondary education has been endorsed as standard terminology for the Federal Government, although its use is optional. In the Office of Education, John Ottina, then Commissioner of Education, made use of the definition in his agency mandatory whenever possible. Such a definition is required under terms of the Education Amendments of 1972 that extended Federal funding to students in technical and training schools for the first time. The definition and its annotations are as follows:

Definition of a Postsecondary Educational Institution (Endorsed by FICE on March 27, 1974)

Line

A postsecondary educational institution is defined as an academic, vocational, technical, home study, business, professional, or other school, college or university, or other organization or person offering educational credentials or offering instruction or educational services (primarily to persons who have completed or terminated their secondary education or who are beyond the age of compulsory school attendance) for attainment of educational, professional, or vocational objectives.

Notes on the Definition

Reference Line

1 Not included in the postsecondary universe are: (a) organizations which offer on-the-job, apprenticeship training, or formal instruction for their own employees or the employees of customers and (b) secondary institutions which offer adult education courses. Thus, an educational institution must offer courses open to the general public, notwithstanding specific admissions requirements or available space. However, any institution chartered by the U.S. Congress as having degree-granting authority shall be included within this definition without regard for exclusions elsewhere stated.

1 By type of control, institutions may be public, proprietary, private non-profit, or private with religious sponsorship.

3 In some cases, a public school system, however, may have a separately organized adult education section which may be organized and operated as a postsecondary educational institution. Where these are clearly not just an extension of the secondary program, they would be classed as postsecondary.

4 Other organizations may include business enterprises, labor unions, professional associations, or private individuals who elect not to be classified as an institution. Also included are museums, hospitals, or other institutions which offer training to nonemployees.

4 Institutions may offer educational credentials without offering programs of instruction -- such as academic credit by examination.

5 Institutions, likewise, may offer an educational service (such as testing) without offering a program of instruction.

7 In general, postsecondary institutions enroll students beyond the age of compulsory school attendance -- 16 in most States.

8 An educational objective does not include learning activities which are principally for the development of recreational knowledge or skills for the enhanced enjoyment of such recreation.

The definition was developed over a period of several years by the FICE Subcommittee on Postsecondary Education Definitions and Classifications and involved considerable negotiation and planning among constituent FICE agencies whose technical missions dictated differing technical requirements on particulars of the definition. The definition was also accepted by the Education Commission of the States for the purpose of its Task Force on Model Legislation for approval and licensing of postsecondary education institutions. As such, it represents the consensus of 28 major Federal agencies and cabinet departments administering educational program support. It was approved by FICE in March 1974.

The Subcommittee later worked on a taxonomy of postsecondary institutions for identifying standard components of the institutions included within the definition, as well as classification systems for the various components of the universe of postsecondary institutions.

Among other achievements of the Subcommittee in the past was the FICE code, a serialized computer designation for all institutions of higher education. Serving as a standard institutional designation for Federal electronic storage and retrieval systems, the FICE code has also been adopted by most States and interstate commissions on higher education.

Appendix B

MATERIALS REVIEWED FOR TERMS AND DEFINTIONS, BY SOURCE OF RESOURCE ITEM

(NOTE: This single-page overview prepared in 1979 replaces the 16-page Appendix B prepared by the contractor in 1975. The contractor's detailed listing of source documents does not seem to be of general interest or use after the passage of time. Suffice it to say that the contractor's sources included the following categories of materials:

- 140 data collection forms of the U.S. Office of Education.
- 9 forms and publications of the National Center for Education Statistics.
- 13 publications and data collection forms of various Federal agencies, including the National Science Foundation; U.S. Department of Commerce, Bureau of the Census; U.S. Department of Defense, Veterans Administration, and U.S. Public Health Service.
- 2 publications involving the American Association of Collegiate Registrars and Admissions Officers in cooperation with Federal agencies.
- 5 publications from State agencies in Colorado and Illinois.
- 30 administrative forms, data collection forms, and data element dictionaries from institutions, including the California State University at Sacramento, University of Pennsylvania, Philadelphia Community College, Spring Garden College (Philadelphia, PA), and Boston University.
- 14 reports and other publications of professional organizations, including the National Center for Higher Education Management Systems, the Institute for Services to Education, Inc., the Council of Student Personnel Associations in Higher Education, the American Association of Collegiate Registrars and Admissions Officers, Phi Delta Kappa, and the Center for the Study of Evaluation of the UCLA Graduate School of Education.
- 7 publications of testing services, including the College Scholarship Service of the College Entrance Examination Board, the American College Testing Program, and the Educational Testing Service.)

Appendix C

ANNOTATED BIBLIOGRAPHY OF PRINCIPAL SOURCES OF POSTSECONDARY EDUCATION ISSUES

The items in this bibliography constituted the principal basis for the for the discussion of in this report of postsecondary education issues and general information needs. The annotations accompanying the citations are intended as comments on the usefulness of the materials to this study task and should not be construed as general evaluations of the quality or interest of the works themselves.

Anderson, Charles A. Where Colleges Are and Who Attends: Effects of Accessibility on College Attendance. New York: McGraw-Hill Book Company, 1972. Useful overall study of the major factors affecting accessibility.

Anticipating Educational Issues Over the Next Two Decades: An Overview Report of Trends and Analyses. Menlo Park, California: Stanford Research Institute, 1973. An astute assessment of educational issues. Stresses the importance of data regarding non-career education.

Ashby, Sir Eric. Any Person, Any Study. New York: McGraw-Hill Book Company, 1971. Follows same general ground as other studies on new trends in postsecondary education.

Berdahl, Robert O. Statewide Coordination of Higher Education. Washington: American Council on Education, 1971. Emphasizes the point that different criteria are needed for evaluating different levels of programs.

Carnegie Commission on Higher Education. The Campus and the City: Maximizing Assets and Reducing Liabilities. New York: McGraw-Hill Book Company, 1972. General reference, focusing almost exclusively on problems relating to colleges in large urban areas.

Carnegie Commission on Higher Education. The Capitol and the Campus: State Responsibility for Postsecondary Education. New York: McGraw-Hill Book Company, 1971. Very detailed and helpful study, focusing on the policy questions that States must face with regard to postsecondary education.

Carnegie Commission on Higher Education. College Graduates and Jobs: Adjusting to a New Labor Market Situation. New York: McGraw-Hill Book Company, 1973. Study of the implications of the declining job market for college graduates.

Carnegie Commission on Higher Education. Continuity and Discontinuity: Higher Education and the Schools. New York: McGraw-Hill Book Company, 1973. Study of some of the problems involved in new trends in postsecondary education.

Carnegie Commission on Higher Education. A Digest of Reports of the Carnegie Commission on Higher Education. New York: McGraw-Hill Book Company, 1974. A compendium of the Commission's reports, broken down by individual reports and by general topics of concern.

Carnegie Commission on Higher Education. Higher Education: Who Pays? Who Benefits? Who Should Pay? New York: McGraw-Hill Book Company, 1973. Detailed study of all the financial issues involved in postsecondary education.

Carnegie Commission on Higher Education. Institutional Aid: Federal Support to Colleges and Universities. New York: McGraw-Hill Book Company, 1972. Stresses the importance of definitions in determining how Federal aid is to be allocated.

Carnegie Commission on Higher Education. Less Time, More Options: Education Beyond High School. New York: McGraw-Hill Book Company, 1971. Deals with the importance of dropout points in education, and of education as a lifetime experience.

Carnegie Commission on Higher Education. New Students and New Places: Policies for the Future Growth and Development of American Higher Education. New York: McGraw-Hill Book Company, 1971. Stresses the importance of flexible patterns of participation in higher education.

Carnegie Commission on Higher Education. The Open-Door Colleges: Policies for Community Colleges. New York: McGraw-Hill Book Company, 1970. Summary of the specific policy questions that community colleges must face.

Carnegie Commission on Higher Education. Priorities for Action: Final Report of the Carnegie Commission on Higher Education. New York: McGraw-Hill Book Company, 1973. Argues for a more flexible conception of postsecondary education with greater attention to the changing labor market.

Carnegie Commission on Higher Education. The Purposes and the Performance of Higher Education in the United States: Approaching the Year 2000. New York: McGraw-Hill Book Company, 1973. Very general treatment. Not helpful for specific issues.

Carnegie Commission on Higher Education. Quality and Equality: New Levels of Responsibility for Higher Education. New York: McGraw-Hill Book Company, 1970. Excellent report on the broad issues of equality of opportunity.

Carnegie Commission on Higher Education. Reform on Campus: Changing Students, Changing Academic Programs. New York: McGraw-Hill Book Company, 1972. A broad view of the changing college scene.

Carnegie Commission on Higher Education. Towards a Learning Society: Alternative Channels to Life, Work, and Service. New York: McGraw-Hill Book Company, 1973. One of the best and most tough-minded studies of new trends in postsecondary education. Stresses the importance of new kinds of data collection for properly evaluating these trends.

Commission on Non-Traditional Study. Diversity by Design. San Francisco: Jossey-Bass Book Company, 1973. A discussion of some of the basic issues of postsecondary education. Covers much of the same ground as that covered by several of the Carnegie Commission's reports.

Daniere, Andre. "The Economics of Higher Education" American Higher Education: Prospects and Choices, Annals of the American Academy of Political and Social Science, Philadelphia, 1974. Argues against low tuition in postsecondary education institutions.

Dresch, Stephen P. An Economic Perspective on the Evolution of Graduate Education. Washington: National Academy of Science, 1974. Interesting, but too limited for this study.

Eckhaus, Richard S. Estimating the Returns to Education: A Disaggregated Approach. New York: McGraw-Hill Book Company, 1973. Interesting report, but very technical. Author is skeptical of treating postsecondary education as an investment.

Education for a Nation: A Congressional Quarterly. Washington: 1972. Analysis and summary of recent issues in education and how Congress has dealt with them. Explains Congressional attitudes towards various Federal aid programs.

Evans, Rupert N. and McCloskey, Gordon. "Rationale for Career Education" The Journal of Aesthetic Education, Volume 7, Number 4, October 1973, 9-22. A sensible appraisal of career education.

Final Report of Eighth Annual Conference on Higher Education General Information Survey. Washington: National Center for Education Statistics, 1972.

Freeman, Richard B. and Breneman, David W. Forecasting the Ph.D. Labor Market: Pitfalls for Policy. Washington: National Academy of Science, 1974. Deals with the difficulty of making accurate manpower forecasts.

Gartland, Thomas G. Practices and Outcomes of Vocational and Technical Education in Technical Institutes and Community Colleges. Iowa City: American College Testing Program, 1972. Discusses the kinds of data needed to assess these programs.

Gilrain, James B. Career Education-1972: An Annotated Bibliography of 173 References. New York: Career Education Inc., 1972. Focuses almost exclusively on the elementary-high school level.

Glenny, Lyman A., and George B. Weathersby. Statewide Planning for Postsecondary Education: Issues and Design. Boulder: National Center for Higher Education Management Systems at Western Interstate Commission for Higher Education, 1971. Discussion of the issues involved in statewide planning.

Gordon, Margaret S. Higher Education and the Labor Market. New York: McGraw-Hill Book Company, 1974. Study of postsecondary education and manpower questions, dealing especially with the difficult problem of measuring the economic benefits of education.

Gould, S.B. and K. Patricia Cross. Explorations in Non-Traditional Study. San Francisco: Jossey-Bass Book Company, 1971. Deals with the problem of equal access to postsecondary education, emphasizing the need for more data on older students who enroll part-time in degree programs.

Halstead, D. Kent. Statewide Planning in Higher Education. Washington: U.S. Government Printing Office, 1974. Comprehensive handbook that describes major higher education planning topics, problems associated with them, and their solutions.

Harris, Seymour E. A Statistical Portrait of Higher Education. New York: McGraw-Hill Book Company, 1972. Discusses some specific issues, especially the question of student access to college in terms of distance from a college. The data, however, are mostly concerned with long-term trends in the past, and would be of limited value in diagnosing the problems that may arise in the late 1970's and 1980's.

Hartnett, Rodney T. Accountability in Higher Education: A Consideration of Some of the Problems of Assessing College Impacts. Princeton: College Entrance Examination Board, 1971. A discussion of the difficulties involved in applying behavioral objectives to education.

Hook, Sidney. Education and the Taming of Power. La Salle: Open Court Publishing Company, 1973. Skeptical view of contemporary educational theory. Warns against thinking of educational accountability in terms of students' opinions and desires.

Kay, Evelyn R. Inventory of Vocational Education Statistics Available in Federal Agencies. Washington: National Center for Education Statistics, 1970. Provides a definition of vocational education.

Kaysen, Carl. Content and Context: Essays on College Education. New York: McGraw-Hill Book Company, 1973. Focuses completely on content of courses in higher education.

Kerr, Clark. "Policy Concerns of the Future," The Expanded Campus: Current Issues in Higher Education. San Francisco: Jossey-Bass Book Company, 1972. Excellent, succinct summary of the key policy questions for post-secondary education.

Medsker, L. and D. Tillery. Breaking the Access Barriers. New York: McGraw-Hill Book Company, 1971. A look at the achievements of community colleges, suggesting that not enough attention has been paid to careful vocational counseling of community college students.

Mood, Alexander M. The Future of Higher Education. New York: McGraw-Hill Book Company, 1973. A skeptical view of the notion of career education, emphasizing the fact that most people will seek a sense of fulfillment and satisfaction outside their jobs. A cogent argument that more attention be paid to adult education.

Murphy, Jerome T. and David K. Cohen. "Accountability in Education: The Michigan Experience," The Public Interest, Number 36, Summer 1974, pp. 53-81. An analysis of some of the problems involved in data collection for purposes of accountability. Takes a skeptical view of the possibilities of educational measurement.

The National Commission on the Financing of Postsecondary Education. Financing Postsecondary Education in the United States. Washington: Government Printing Office, 1973. An indispensable study for a concise view of the difficult problem of financing postsecondary education, and of the broader issues that postsecondary education policy must deal with.

National Commission on the Financing of Postsecondary Education. A Framework for Analyzing Postsecondary Educational Financing Policies. Washington: Government Printing Office, 1974. Concrete analysis of the issues involved in financing postsecondary education.

Newman, Frank. Report on Higher Education. Washington: United States Department of Health, Education, and Welfare, Office of Education, 1971.

Peterson, Richard E. American College and University Enrollment Trends in 1971. New York: McGraw-Hill Book Company, 1972. A sound and detailed study of new enrollment patterns in higher education, suggesting ways in which we can determine the multiple reasons for these patterns.

Reisman, David and Verne A. Stadtman. Academic Transformation. New York: McGraw-Hill Book Company, 1973. Exclusively concerned with analyzing problems at some elite universities in the 1960's.

Summary Report: Attitudes Towards Career Education. New York: Policy Studies in Education, 1974. A minor market research effort to determine attitudes toward career education.

Trivett, David A. Proprietary Schools and Postsecondary Education. Washington: American Association for Higher Education, 1974. Excellent description of proprietary schools and their role in postsecondary education.

United States Office of Education. Career Education: A Handbook for Implementation. Washington: 1972. Clarifies the broader field of career education within which are some aspects of postsecondary education.

Wilson, Logan and Olive Mills. Universal Higher Education: Costs, Benefits, Options. Washington: American Council on Education, 1972. General discussion of most of the issues involved in new trends in postsecondary education.